4.4 BIOLOGICAL RESOURCES

This chapter describes biological resources within the project area proposed by Sempra Communications, and evaluates the potential impacts of the proposed project. It includes a description of plant communities and wildlife habitats, wetlands and other sensitive habitats, and special status plant and wildlife species present or potentially present within the project area. Existing conditions are presented in nine biological regions in the project area are described in Section 4.4.3 through Section 4.4.12 below. **Table 4.4-1** identifies the project area biological regions and the counties each region includes. Vegetation maps for each of these counties are shown in Figures **4.4-1** through **4.4-15** at the end of this section. Extensive summary tables referenced in this chapter are located in Appendix E.

TABLE 4.4-1
SEMPRA COMMUNICATIONS PROJECT AREA BIOLOGICAL REGIONS AND CORRESPONDING COUNTIES

Project Area Region	Counties Included in Region
Sacramento Metropolitan	Sacramento
San Francisco Bay Area	Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara
Santa Cruz	Santa Cruz
Fresno	Fresno
Los Angeles Basin	Los Angeles, Orange
San Bernardino	San Bernardino
Riverside County	Riverside
San Diego	San Diego
Imperial	Imperial

4.4.1 DATA SOURCES AND METHODS OF ANALYSIS

The documentation of biological resources for the project area relies on existing information presented on a regional scale. The objective was to broadly inventory biological resources and provide sub-regional (*i.e.*, portions of counties) discussions of the project area. These discussions serve as an overall representative setting for consideration of potential project effects on biological resources, and if necessary, serve as a basis for further in-depth analysis for subsequent activities within the project area. Due to the programmatic nature of the project and extensive project area, no focused surveys were conducted in support of this document.

The California Gap Analysis Program[1] (GAP), a Statewide GIS-based habitat mapping inventory (Davis et al., 1998), and information from the California Wildlife Habitat Relationships (WHR) system (Mayer and Laudenslayer 1988) provided the basis for the description of plant communities and wildlife habitats evaluated in this document. The GAP data provided a uniform treatment of vegetation types for the broad array of geographies encompassed within this analysis. Vegetation types used in the GAP primarily follow a classification system developed for the California Department of Fish and Game (CDFG) by Holland (1986) although the GAP database simultaneously classifies areas by the slightly broader WHR habitat types. WHR links these vegetation types to the sensitive wildlife species associated with them. Utilizing GIS, Sempra Communications' project area boundaries were superimposed upon the publicly available GAP data to create an inventory of vegetation types and wildlife habitats within project area regions[2] (**Figures 4.4-1 through 4.4-15)**. These data are suitable for this type of large-scale preliminary inventory, but the resolution imposed by the mapping methods necessary to produce this data imposes limitations.

Additional sources consulted for special status species[3] information during the preparation of this document include CDFG, California Natural Diversity Data Base (CNDDB) (CDFG, 2002a) and its Special Animals list (CDFG, 2002b), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2002), U.S. Fish and Wildlife Service (USFWS) lists of proposed, candidate and listed threatened and endangered species that may occur in the project area (USFWS, 2002), documentation provided by Sempra Communications (Recon, 2000), and other planning documents in the project area (ESA 2000a, 2000b, 2001). These data were analyzed to highlight sensitive plant communities or wildlife habitats that may be extremely limited on a local or regional scale, suitable habitat for special-status plants and wildlife within the project area, and large wetlands, rivers or concentrations of smaller streams that present heightened implementation and regulatory complexity. Additional information from other fiber optic projects in the project area (ESA 2000a, 2000b, 2001; CPUC, 1999; EDAW, 2001a, 2001b; PB and ESA, 1998, 1999a, 1999b) was used to formulate focused lists of species with moderate to high potential of occurrence within specific fiber optic routes.

4.4.2 SCOPE OF ANALYSIS

This section describes assumptions and conventions that are applied to the analysis of biological resources throughout the project area.

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1 A major purpose of the GAP is to identify species, vegetation types, and species-rich areas that are underrepresented in existing managed areas. The word "gap" refers these deficiencies in the system of conserved lands.

2 GAP data of vegetation type is slightly more information rich than reflected in the maps. While each polygon on a map corresponds visually to one vegetation type in the key, the GAP database contains up to three vegetation types associated with each polygon. These represent the three most prevalent vegetation types in a polygon, with only the most prominent type reflected by the key. The inventory of vegetation types includes all database occurrences for polygons that occur in, or partially in, Sempra Communications' project boundaries.

3 Special status species are defined in the following section.

VEGETATION RESOURCES

For the purposes of this discussion, vegetation resources include both common and sensitive plant communities and special-status plant species. Due to the developed condition of much of the project area, natural vegetation is limited. Ornamental landscaping is included as a vegetation type, but is regarded as having marginal wildlife habitat value.

Plant Communities and Wildlife Habitats

The project is divided between several different ecological subregions (Miles and Goudey, 1998), and encompasses a broad array of topographic, geologic, and climatic conditions that contribute to the diversity of ecotypes. The major geographic subdivisions in Northern California are the Sacramento Valley, San Francisco Bay, and the Coast Ranges. The Southern California region includes the South Coast, Transverse Ranges and Peninsular Ranges. The definition and boundaries of geographical divisions follow the Jepson Manual (Hickman, 1993). Plant community descriptions are a synthesis of classifications by Holland (1986) and Sawyer and Keeler-Wolf (1995), the California WHR system, and mapping information as presented in the California GAP Project. For this environmental assessment, sensitive plant communities include those communities that are especially diverse, regionally uncommon, considered sensitive natural communities (as defined by Holland, 1986, or documented in CNDDB 2002), or covered by state or federal regulations (*e.g.*, Section 404 of the Clean Water Act and Section 1600 of the CDFG Code). Most sensitive plant communities are given special consideration because they are limited in extent due to habitat modification, and provide important ecological functions, such as water quality maintenance and essential habitat for plants and wildlife. Some plant communities support a unique or diverse assemblage of plant species; therefore, they are considered sensitive from a botanical standpoint. Descriptions of common plant communities in the project area are included in this section of the document. The Existing Conditions sections identify and include descriptions of common and sensitive plant community occurring within each project area region.

Although subsequent activities proposed by Sempra Communications would traverse or abut a variety of geologic formations, climatic conditions, and associated plant communities, the overall diversity of biological resources is substantially limited by the disturbed and developed conditions that prevail over much of the project area.

Common Plant Communities and Associated Wildlife Habitat

Annual Grassland. Annual grasslands are herbaceous plant communities found throughout the project area. Due to extensive urban development, grasslands range from relatively sparse or small isolated patches, to extensive and densely vegetated areas (typically large tracts of grazing lands), depending on population density and land use. Typical plant species in these areas include annual grasses such as soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus)*, wild oats (*Avena sp.)*, and foxtail barley (*Hordeum murinum*), as well as a wide range of non-native and native, usually annual herbaceous plants. Grasslands in the project area provide habitat for reptiles and amphibians such as western fence lizard (*Sceloporus occidentalis*), northern alligator

lizard (*Elgaria coerulea*), and pacific tree frog (*Pseudacris regilla*), and birds including mourning dove (*Zenaida macroura*) and western meadowlark (*Sturnella neglecta*). In more rural areas, grasslands can also be important foraging grounds for aerial and ground foraging insect eaters such as *Myotis* bat species and pallid bat (*Antrozous pallidus*). Mammals such as Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), and black-tailed jackrabbit (*Lepus californicus*) may browse and forage within the grassland and thrive when varied natural habitats are available nearby. Small rodents attract raptors (birds of prey), many of them special status (see the discussion of wildlife resources section below) including red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), burrowing owl (*Athene cunicularia*), and Swainson's hawk (*Buteo swainsoni*) (Sacramento-San Joaquin Valley only).

Ruderal. Ruderal (disturbed and weedy) habitats are a conspicuous component of road shoulders and other developed or disturbed areas. This habitat type occurs frequently throughout the project area and is especially prevalent in semi-rural, low density residential and agricultural land use types. Where vegetated, these sites are dominated by weedy non-native plant species. Disturbed habitats are most prevalent in areas subject to frequent and often severe vegetation and soil disturbances by vehicles as a result of road maintenance, vehicle parking, and regular mowing. Ruderal habitats are most commonly characterized as areas immediately adjacent to paved and dirt roads and areas that have been used as parking areas. Other ruderal habitats may include disked or fallow fields, construction sites, levees, and railroad or other public utility rights of way.

Ruderal habitats provide limited foraging or nesting habitat for disturbance tolerant and non-native birds and small mammals (*e.g.*, English sparrow (*Passer domesticus*), European starling (*Sternus vulgaris*), house finch (*Carpodacus mexicanus*), Norway rat (*Rattus norwegicus*), and house mouse (*Mus musculus*)). Within the project area, the less disturbed ruderal areas may be occupied by ground squirrels and other rodents. Although these areas are generally depauperate for wildlife, under appropriate conditions they may support sensitive wildlife species such as Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (Sacramento-San Joaquin Valley only) and burrowing owl.

Urban Landscaping. Ornamental trees, shrubs, grasses and urban landscaped areas comprise a large portion of the vegetation throughout the majority of the project area due to the focus on predominantly urbanized areas. The majority of ornamental vegetation consists of non-native plant species. When landscaped areas become isolated within urban centers, away from natural habitats such as streams or wetlands, they provide little habitat for native wildlife and only rarely support special-status species. Common wildlife Species identified within these communities include European starling, house finch, yellow-billed magpie (*Pica nuttalli*), rock dove (*Columba livia*), northern mockingbird (*Mimus polyglottus*), and white-crowned sparrow (*Zonotrichia leucophrys*). With the exception of common rodents such as house mouse, Norway rat, Botta's pocket gopher, and western gray squirrel (*Sciurus griseus*), few mammals, and no amphibians or reptiles are expected in highly landscaped portions of the project area.

Agricultural. Agricultural habitats in the project area include croplands, vineyards, and both evergreen and deciduous orchards. Irrigated pastureland, as distinguished from non-irrigated rangeland/annual grassland, is included here, although its potential wildlife habitat value is similar to annual grassland. Agricultural areas are often subject to periodic discing, planting, harvesting, and the application of herbicides, pesticides, and fertilizers which prevent the establishment of native plant species and communities. A number of weedy plant species, including bristly ox-tongue (*Picris echiodes*), curly dock (*Rumex crispus*), and bull thistle (*Cirsium vulgare*) are associated with cultivated lands, and are adapted to disturbed, bare ground, rapid maturity, and high seed production. Agricultural lands may provide occasional habitat for transient mammals, reptiles, and amphibians, and have some value to birds. Small mammals, such as rabbits and rodents, forage on leaves and grasses, and in turn, may attract predatory raptors to agricultural areas. Orchard and vineyard habitat may provide foraging resources to mammals and birds such as mule deer (*Odocoileus hemionus*), California ground squirrel, northern flicker (*Colaptes auratus*), yellow-rumped warbler (*Dendroica coronata*), American robin (*Turdus migratorius*), and western scrub jay (*Aphelocoma californica*), and provide cover and nesting habitat to mourning dove and California quail (*Callipepla californica*). Uncultivated land within or around the perimeter of orchards and vineyards may also provide denning sites for the federal Endangered and California Threatened San Joaquin kit fox (*Vulpes macrotis mutica*) (Fresno and eastern San Francisco Bay Area regions).

Oak Woodland. Woodland habitats within the project area include valley oak, blue oak, black oak, coast live oak and interior live oak woodlands. In addition, blue oak-foothill-pine woodland habitat occurs in the project area within Santa Clara, Contra Costa, and Sacramento Counties. Engelmann oak woodlands occur in the project area within San Diego County. These upland plant communities range in extent from a few trees to large stands, the latter being in rural or agricultural areas.

Valley oak woodlands tend to be open forest communities with isolated valley oak trees (*Quercus lobata*) and a sparse annual grassland understory. At lower elevations, valley oak woodland may intergrade with blue oak woodlands with a similar structure of largely open canopy and annual grassland understory. Coast live oak woodlands have variable understory composition, depending upon the density of the oak canopy. Shade-tolerant understory species of dense coast live oak woodlands include California blackberry (*Rubus ursinus*) and toyon (*Heteromeles arbutifolia*). Where coast live oak woodland intergrades with chaparral or coastal scrub habitat, understory species include California sagebrush (*Artemesia californica*), coyote brush (*Baccharis pilularis*) and other species dominant in these scrub habitats as described below. Englemann oak woodlands often include coast live oaks (*Quercus agrifolia*) as a secondary dominant species. Interior live oak woodland communities are more common at higher elevations and are dominated by interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*). Shrub species include ceanothus (*Ceanothus* sp.), blue elderberry (*Sambucus mexicana*), toyon, and poison oak. Common species of the foothill woodlands are foothill pine (*Pinus sabiniana*), various oak species (*Quercus* sp.), and buckeye. Pine communities are not widespread in the project area, and are mostly limited to small, isolated trees or tree stands.

In urban settings, wildlife found in these woodland habitats are commonly associated with the "edge" environment between the woodland community and adjacent grasslands, chaparral, streams, or developed areas. Woodland communities support an abundant assortment of reptiles and amphibians such as western toad (*Bufo boreas*), Pacific tree frog, and Pacific slender salamander (*Batrachoseps pacificus*). Resident and migratory bird species found in interior live oak woodlands include spotted towhee (*Pipilo maculatus*), oak titmouse (*Baeolophus inornatus*), Hutton's vireo (*Vireo huttoni*), ruby-crowned kinglet (*Regulus calendula*), pacific slope flycatcher (*Empidonax difficilis*), northern flicker, hairy woodpecker (*Picoides villosus*), and yellow-rumped warbler. These areas are also important foraging grounds for aerial and ground foraging insectivores such as *Myotis* bat species and pallid bat. Raptors that breed and nest in local woodland communities include red-tailed hawk, sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), white-tailed kite, and others.

Eucalyptus Woodland. The dense shade created by the eucalyptus canopy, combined with the volatile chemicals contained in the bark and leaf litter, create poor growing conditions for most herbaceous and woody understory species. Consequently, the understory of this plant community is generally devoid of vegetation and consists of a thick layer of bark and leaves, except where openings in the canopy allow sufficient light to penetrate to the forest floor to support a few scattered forbs and grasses. Eucalyptus stands provide nesting and roosting habitat for various common bird species, such as American crow *(Corvus brachyrhynchos)* and common raven *(Corvus coma)*, as well as for red-tailed hawk and other raptors. Common reptiles such as gopher snakes *(Pituophis melanoleucus)* and northern alligator lizards may also inhabit the understory of these stands.

Mixed Evergreen Forest. Limited mixed evergreen forests occur within the project area in the San Francisco Bay Area, Santa Cruz, Los Angeles Basin, and San Bernardino regions. These communities in coastal areas of the San Francisco Bay Area and Santa Cruz regions may include redwood (*Sequoia sempervirens*), ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), California bay, coast live oak, and Monterey pine (*Pinus radiata*). Understory species include manzanita (*Arctostaphylos* sp.) and poison oak, as well as other shrub and herbaceous species. Ponderosa pine, bigcone spruce (*Pseudotsuga macrocarpa*), white fir (*Abies concolor*), and canyon live oak (*Quercus chrysolepis*) may make up the canopy of mixed evergreen forest communities in the Los Angeles Basin and San Bernardino regions. Associated species include Pacific madrone (*Arbutus menziesii*), California bay, and poison oak. Mixed evergreen forests provide foraging habitat for mule deer, California ground squirrel, dusky-footed woodrat (*Neotoma fuscipes*), acorn woodpecker (*Melanerpes formicivorus*), and western scrub jay. Raptors such as red-tailed hawk and great horned owl (*Bubo virginianus*) may nest in tall trees in this habitat. Western rattlesnake (*Crotalis viridis*), western fence lizard, and Pacific slender salamander may inhabit mixed evergreen forests in the project area.

Desert Scrub. Desert scrub is present in the project area only within the Imperial County region. Plant species associated with desert scrub include creosote bush (*Larrea tridentata*), white brittlebrush (*Encelia faroinosa*), beavertail pricklypear (*Opuntia littoralis*), and Douglas and rubber rabbitbrush (*Chrysothamnus viscidiflorus* and *C. nauseosus*). This habitat supports few

birds, but produces large numbers of seeds that support large numbers of small mammals, as their primary food source. These mammals include white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), pocket mouse (*Perognathus penicillatus*), and kangaroo rats (*Dipodomys* sp.). Migratory birds are not well adapted to desert life and typically pass through in spring and fall, when conditions are ideal for their journeys. Resident birds, however, depend on desert habitats, and Phainopepla (*Phainopepla nitens*) and white-winged doves (*Zenaida asiatica*) forage on the berries of desert plants, while Gambel's quail (*Callipepla gambelii*), black-throated sparrow (*Amphispiza bilineata*), Abert's towhee (*Pipilo alberti*), cactus wren (*Campylorhynchus brunneicapillus*), LeConte's thrasher (*Toxostoma lecontei)*, and sage sparrow (*Amphispiza belli*) forage for seeds in desert habitats. Greater roadrunners (*Geococcyx californianus*) catch small snakes, lizards, and insects. All migrant birds and some resident birds depend on water for drinking and bathing. However, some desert species like common raven, phainopepla, verdin (*Auriparus flaviceps*), elf owl (*Micrathene whitneyi*), lesser nighthawk (*Chordeiles acutipennis*), black-tailed gnatcatcher (*Polioptila melanura*), and ladder-backed woodpecker (*Picoides scalaris*) are not known to require free water for drinking and bathing.

Coastal Scrub. Coastal scrub habitat in the San Francisco Bay Area region of the project area includes the following plant communities: northern coastal scrub, central coastal scrub, and Diablan sage scrub. In the Southern California region, the project area includes Venturan coastal sage scrub, Diegan coastal sage scrub, and Riversidean sage scrub. Regionally, these coastal scrub communities also are regarded as sensitive plant communities due to a high degree of habitat loss. Coastal scrub habitat is characterized by low, woody shrubs, generally one to two meters tall. Bay Area coastal scrub communities occur on shallow, rocky slopes, whereas coastal scrub communities in Southern California usually occur on dry, steep slopes or alluvial plains. Typical species present in coastal scrub in the project area include coyote brush, California sagebrush, black sagebrush (*Artemesia nova*), bush monkeyflower (*Mimulus aurantiacus*), California buckwheat (*Eriogonum fasciculatum*), and poison oak. Coastal scrub provides nesting and foraging habitat for various common birds, including spotted and California towhees (*Pipilo crissalis*), bushtit (*Psaltriparus minimus*), western scrub jay, and California quail. Rapors may forage over such areas and prey upon some of these small birds, as well as small mammals and reptiles such as California ground squirrel, brush rabbit (*Sylvilagus bachmani*), and western fence lizard. Numerous special status plant and wildlife species occur in coast scrub habitats. San Francisco Bay Area coastal scrub may support the federal and California Threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*), while Diegan sage scrub is recognized as primary habitat for the federal Threatened coastal California gnatcatcher (*Polioptila californica californica*).

Chaparral. Chaparral plant communities in the project area can be categorized as montane, mixed, or chamise-redshank chaparral habitat depending primarily on location and dominant species present in the community. Montane chaparral occurs between 3,000 to 9,000 feet in northern California and above 7,000 feet in southern California. Evergreen species such as chaparral whitethorn (*Ceanothus leucodermis*), huckleberry oak (*Quercus vaccinifolia*), greenleaf manzanita (*Arctostaphylos patula*), and mountain mahogany (*Cercocarpus betuloides*) characterize this plant community. Montane chaparral has a very limited distribution within the

project area, occurring only within a small portion of the San Francisco Bay Area and Los Angeles Basin regions. Both mixed chaparral and chamise-redshank chaparral are composed of dense shrubs 1 to 4 meters tall, which can overlap to produce greater than 80% canopy cover. Scrub oak (*Quercus berberidifolia*) and ceanothus and manzanita species dominate mixed chaparral habitat. In addition to chamise (*Adenostoma fasciculatum*) and redshank (*Adenostoma sparsifolium*) as dominant species, chamise-redshank chaparral can include species such as California buckwheat, poison oak, white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and toyon.

Chaparral habitat can provide dense vegetative cover for many common small mammals and reptiles, including brush rabbit, Botta's pocket gopher, deer mouse (*Peromyscus maniculatus*), California mouse *(Peromyscus californicus),* western fence lizard, western skink (*Eumeces skiltonianus*), and common kingsnake *(Lampropeltis getulus).* Common bird species that nest in chaparral habitat include lesser goldfinch *(Carduelis pasltria),* Anna's hummingbird (*Calypte anna),* California quail, wrentit *(Chamae fasciata),* bushtit, white-crowned and golden-crowned sparrow (*Zonotrichia atricapilla*), and western scrub jay. The following large mammal predators may prey upon small mammals and reptiles in chaparral habitat on the project site: coyote *(Canis latrans),* gray fox (*Urocyon cinereoargenteus),* and raccoon *(Procoyon lotor).*

Sensitive Plant Communities and Associated Wildlife Habitats

Perennial Grassland. In coastal regions of the project area within the Santa Cruz and San Francisco Bay Area regions, perennial coastal prairie grasslands are present. These grasslands are dominated by bunchgrasses from genera such as *Nassella* (needlegrasses), *Festuca* (fescues) and *Deschampsia* (oatgrasses). Where stands are intact or have been restored, they support most of the wildlife species associated with annual grasslands. Due to the structure of the grasses and their longer growing period, and other associated native plant species, perennial grassland is generally of higher quality than annual grassland.

Riparian Forest, Woodland, and Scrub. Riparian forest, woodland, and scrub habitat occurs along larger rivers and creeks throughout the project area. Typical riparian communities of the San Francisco Bay Area region may include various species of willows with alder (*Alnus* sp.) cottonwood (*Populus* sp.), California bay, coast live oak, ash and northern California black walnut (*Juglans californica* var. *hindsii*). Shrub species include California wildrose (*Rosa californica*) and California blackberry. Herbaceous vegetation may include sedges, grasses and aquatic species (discussed below in Freshwater Emergent Wetland). Central coast riparian scrub occurs from the San Francisco Bay Area south to Point Conception and is considered a significant plant community by CDFG (Holland, 1986). In the Fresno and Sacramento Metropolitan regions of the project area, Great Valley cottonwood riparian forest and mixed riparian forest may include species of willow, cottonwood, white alder, big-leaf maple, and valley oaks. Major river courses in the Los Angeles Basin, Riverside County, San Diego County, and Imperial County regions of the project area support various riparian communities with cottonwood, willow, coast live oak, white alder (*Alnus rhombifolia*), and sycamore (*Platanus* sp.) species. Young, dense stands of willow and mulefat (*Baccharis salicifolia*) scrub form the dominant plant species in southern

willow riparian scrub, which is closely associated with riparian forests and tends to dominate in areas more frequently disturbed by winter storm flows.

Riparian habitats support some of the most diverse wildlife communities in the project area. The diversity of plant species, multi-layered vegetation, and perennial water provides a variety of foods and microhabitat conditions for wildlife. Mature willows, oaks, sycamores, and other riparian trees provide high-quality nesting habitat for Cooper's hawk, sharp-shinned hawk, white-tailed kite and other raptors. Cavity-nesting wildlife, such as the Nuttall's woodpecker (*Picoides nuttallii*), downy woodpecker, northern flicker, white-breasted nuthatch (*Sitta carolinensis*), western gray squirrel and bat species require mature stands of trees. California grape vines (*Vitis californica*), blackberry, elderberry (*Sambucus* sp.), and oak produce important fall and winter foods for birds and mammals. Common wildlife species that depend on the nectar, fruits and seeds of riparian plants include Anna's hummingbird, black-headed grosbeak (*Pheuticus melanocephalus*), California towhee, raccoon (*Procyon lotor*), striped skunk, and gray fox.

Riparian vegetation supports an abundance of insect prey that feed on foliage and stems during the growing season. These insects, in turn, support a high density of migratory and resident birds, including the Pacific-slope flycatcher, western wood pewee (*Contopus sordidulus*), yellow warbler (*Dendroica petechia*), MacGillivray's warbler (*Oporornis tolmiei*), Wilson's warbler (*Wilsonia pusilla*), warbling vireo (*Vireo gilvus),* bushtit, and house wren (*Troglodytes aedon*). Oak foliage and bark attract insects that are important to the diet of birds such as white-breasted nuthatch, plain titmouse, Bewick's wren (*Thryomanes bewickii*), ruby-crowned kinglet, American robin, Hutton's vireos, warbling vireo, orange-crowned warbler, Nashville warbler (*Vermivora ruficapilla*), yellow-rumped warbler, black-throated gray warbler (*Dendroica negrescens*), western tanager (*Piranga ludoviciana*), black-headed grosbeak, fox sparrow (*Passerella iliaca*), and house finch. Woodpeckers excavate nestholes in live and dead oaks, and these cavities are subsequently used by other cavity-nesting species, such as American kestrel, western screech owl (*Otus kennicottii*), tree swallow (*Tachycineta bicolor*), ash-throated flycatcher (*Myiarchus cinerascens*), and western bluebird (*Sialia mexicana*). Oak acorns provide an important food source for many species including western scrub jay, western gray squirrel, and mule deer.

Freshwater Emergent Wetland[4]. Freshwater emergent wetland may occur in the project area where year-round, shallow, standing water is present. It is associated with the edges of canals, irrigation ditches, sloughs, some perennial drainages, and riverbanks. Emergent marshes are typically dominated by perennial emergent species, including cattail (*Typha* sp.), tule (*Scirpus* sp.), three-square (*Scirpus pungens*), and umbrella sedge (*Cyperus eragrostis*). Annual species, such as water smartweed (*Polygonum* sp.), duckweed (*Lemna* sp.), and annual rabbit's-foot grass (*Polypogon monspeliensis*), are also common in the emergent marsh. For the most part, this community does not occur in drainages that are channelized and concrete-lined.

[4] CNDDB identifies this sensitive community as coastal and valley freshwater marsh. This document will use the WHR habitat classification of freshwater emergent wetland.

The narrow band of emergent marsh vegetation along canals, ditches, and other drainages provides some nesting and foraging opportunities and cover for water bird species and small mammals, including mallard (*Anas platyrhynchos*), green-winged teal (*Anas crecca*), great egret (*Ardea alba*), marsh wren (*Cistothorus palustris*), song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), raccoon, and California vole (*Microtus californicus*). Emergent marshes are also important foraging grounds for several bat species.

Saline Emergent Wetland. Saline emergent wetland occurs in the lagoons and estuaries of the San Francisco Bay Area, Los Angeles Basin, and San Diego County regions of the project area. Because northern coastal salt marsh and southern coastal salt marsh are considered sensitive plant communities by the CNDDB, saline emergent wetland is classified as one of these two communities in the regional discussions below. In the project area, Malibu Lagoon and Ballona wetlands in Los Angeles County, Seal Beach marshes, Bolsa Chica Lagoon, and Upper Newport Bay in Orange County, and Mission Bay and San Diego Bay in San Diego County provide saline emergent wetland habitat. The dominant plants of this community possess features that allow them to live in saline soils and to absorb water despite its dissolved salts. The lower marsh vegetation is dominated by cord grass (*Spartina* sp.), while in the upper marsh, pickleweed (*Salicornia* sp.) is often the dominant species in association with alkali heath (*Frankenia salina*), sea-blite (*Suaeda linearis*), saltgrass (*Distichlis* sp.), fleshy jaumea (*Jaumea carnosa*), and others. California mainland and island coastal areas include some of the richest habitats for marine birds and mammals in North America. The ocean waters, lagoons, beaches, bays, estuaries, saltwater marshes, and tidal flats provide habitat for an abundance of seabirds, shorebirds, wading birds, and waterfowl. Typical birds of rocky coasts include double-crested and pelagic cormorants (*Phalacrocorax auritus* and *P. pelagicus*), black oystercatcher (*Haematopus bachmani*), black turnstone (*Arenaria malanocephala*), wandering tattler, and surfbird (*Aphriza virgata*). Sandy beaches experience heavy human use, but undisturbed areas attract marbled godwit (*Limosa fedoa*), sanderling (*Calidris alba*), and special-status species, such as western snowy plover (*Charadrius alexandrinus nivosus*) and California least tern (*Sterna antillarum browni*). Dry salt flats occur adjacent to San Diego Bay in the San Diego County region of the project area. This community is included in the saline emergent wetland habitat type due to its association with saline emergent wetland and its value as nesting habitat for western snowy plovers and California least terns.

Seasonal wetlands. Seasonal wetlands provide important foraging habitat for resident and migratory birds and supply an abundant invertebrate food source. In addition, the importance and sensitivity of wetlands have increased due to their value as recharge areas and filters for water supplies, and due to widespread filling and destruction of wetlands for urban and agricultural development. Most plant and animal species that have adapted to ephemeral wetlands are unique to these habitats and have highly specialized life cycles. Seasonal wetlands, including vernal pools, in the project area and special status plant and animals which may inhabit these areas are discussed below.

Aquatic Habitat. Creeks, streams, rivers, lakes, ponds, tidal sloughs, bays, and estuaries in the project area provide aquatic habitat for a wide variety of wildlife. Freshwater, brackish and saline

aquatic habitats are present in the project area. The Sacramento, San Joaquin, and American Rivers support fish species of the Sacramento blackfish-Sacramento perch association, which are typically adapted to warmer, flatter rivers with high turbidity and low oxygen. Species inhabiting these rivers include Sacramento blackfish (*Orthodon microlepidotus*), Sacramento perch (*Archoplites interruptus*), Sacramento splittail (*Pogonichthys macrolepidotus*), and prickly sculpin (*Cottus asper*). These fish species also occur within the San Francisco Bay and its tributaries. Brackish water creeks which drain to the San Francisco Bay may support bat ray (*Myliobatis californica*), Pacific staghorn sculpin (*Leptocottus armatus*), shiner surfperch (*Cymatogaster aggregata*), longfin smelt (*Spirinchus thaleichthys*), bay pipefish (*Syngnathus leptorhynchus*), and the introduced yellowfin goby (*Acanthogobius flavimanus*) and striped bass (*Morone saxatilis*). Lakes and ponds in the San Francisco Bay Area region also are relatively abundant, and provide varying degrees of aquatic habitat depending on size and condition. Aquatic habitat within the project area in the Southern California regions is limited. Channelization of waterways for flood control management has eliminated the majority of aquatic habitat or reduced it to a very low habitat value throughout the project area.

Special-Status Plant Species

For the purpose of this environmental assessment, the term special-status plants is defined as species that are:

- listed or proposed for listing as Threatened or Endangered under the federal Endangered Species Act (federal ESA) (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species);
- federal Candidates for listing as Threatened or Endangered under the federal ESA (58 FR 188: 51144-51190, September 30, 1993);
- federal Species of Concern or California Species of Special Concern;
- listed by the State of California as Threatened or Endangered under the California Endangered Species Act (CESA) (14 CCR 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.); and
- plants considered by CNPS to be "rare, Threatened, or Endangered in California" (generally species from Lists 1B and 2; selected List 3 and 4 species are identified in Skinner and Pavlik 1994).

Special status plant species with potential to occur within each project region were identified (see **Table 4.4-2**[5]). Although there is a certain amount of overlap, with some species occurring in

[5] Plant and wildlife species totals for this document were compiled from searches of the CNDDB and the CNPS Electronic Inventory for the project area and from USFWS lists of species potentially affected by the project. As of June 2002, ESA had received species lists from the USFWS for all project area regions except Santa Cruz. The species totals are approximate for this region and will be finalized after USFWS species lists are received.

more than one region, the number of special status plant species for the project area as a whole is quite large. Documented occurrences of these species typically are located in areas of natural vegetation and open space within the otherwise highly urbanized areas. Many occurrences documented within the urbanized portions are either historic (*i.e.*, documented prior to extensive urbanization) and therefore mapped as large, unspecific areas of potential occurrence, or are since extirpated by prior development. Several species may occupy natural habitat adjacent to the proposed subsequent activity, but would not be subject to direct affects of construction. **Table 4.4-2** below provides an overview, by region, of sensitive species and habitats; Appendix E summarizes special status plants and their habitats, by county, in each project area region.

TABLE 4.4-2
SEMPRA COMMUNICATIONS PROJECT AREA REGIONS
AND POTENTIAL SENSITIVE SPECIES

	Federal or State Listed, Rare, or Candidate Species		Federal or State Other Special Status Species	
Region	**Plants**	**Animals**	**Plants**	**Animals**
Sacramento Metropolitan	7	22	16	50
San Francisco Bay Area	44	45	137	117
Santa Cruz	17	18	26	13
Fresno	5	17	7	46
Los Angeles Basin	25	28	59	42
San Bernardino	19	23	32	24
Riverside County	18	24	31	27
San Diego	27	25	74	44
Imperial	1	4	6	6

Critical Habitat for Listed Plant Species

USFWS-designated critical habitat[6] for the following plant species is located within the project area: Antioch Dunes evening primrose and Contra Costa wallflower. In addition, the USFWS has proposed critical habitat for Otay tarplant, Santa Cruz tarplant, and robust spineflower within the project area. The Existing Conditions sections below identify USFWS-designated critical habitat within each region of the project area.

WILDLIFE RESOURCES

The goal of the wildlife resource assessment was to obtain sufficient information to adequately assess the potential effects of subsequent activities on wildlife resources. ESA obtained and

6 Critical habitat is discussed in Regulatory Setting below.

reviewed existing information on wildlife resources known to be present in the proposed project area to determine the location and types of wildlife resources that occur in each region of the project area. Documents reviewed include local resource management plans, Environmental Impact Reports, conservation plans (*e.g.*, the San Diego Multiple Species Conservation Plan [MSCP]), and other environmental documents prepared for projects in the study area. Information on species occurrences was also gathered from statewide databases through contacts with the Natural Heritage Division and Nongame and Endangered Wildlife Section of CDFG. Contacts were made with resource specialists from the CDFG and USFWS to gather file information on wildlife resources in the project area, including mapped and database information. Contacts were made by telephone and written correspondence.

Lists of all special-status wildlife species potentially occurring in the project area, along with their legal status, distribution, and habitat association, are provided in Appendix E. In this document, the term special-status wildlife includes species that are:

- listed or proposed for listing as Threatened or Endangered under the federal ESA (50 CFR 17.11 [listed animals] and various notices in the Federal Register for proposed species);
- federal Candidates for listing as Threatened or Endangered under the federal ESA (58 FR 188: 51144-51190, September 30, 1993);
- federal Species of Concern or California Species of Special Concern;
- listed by the state of California as Threatened or Endangered under CESA (14 CCR 670.5), and;
- fully protected animals in California (Cal. Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians].

Special status wildlife species with potential to occur within each project region were identified (see Table 4.4-2). As with plants, there is a certain amount of overlap, with some wildlife species occurring in more than one region and others occurring throughout the project area. However, the total number of wildlife species addressed in this document is quite large. Even if subsequent activities are proposed within urbanized areas and previously disturbed rights of way, a potential exists for construction activities to affect special status wildlife species. Species within habitats adjacent to developed areas and not directly affected by installation of fiber optic cable facilities could potentially be indirectly affected by construction noise and activity, and are therefore included in the following summaries of existing conditions. Appendix E identifies, by county, sensitive wildlife species that may occur within the project area.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for the following wildlife species is located within the project area: Riverside fairy shrimp, delta smelt, valley elderberry longhorn beetle, California red-legged frog, Alameda whipsnake, Palos Verdes blue butterfly, bay checkerspot butterfly, arroyo southwestern toad, and Quino checkerspot butterfly. Critical habitat designated by the National Marine Fisheries Service (NMFS) and National Oceanic and Atmospheric Administration (NOAA) for Sacramento River winter run chinook salmon is located within the project area. In

addition, areas proposed for designation as critical habitat for the San Bernardino kangaroo rat occur within the project area. Areas previously designated by the USFWS as critical habitat for coastal California gnatcatcher, San Diego fairy shrimp, Central Valley chinook salmon (spring run)[7] and southern California steelhead also occur within the project area[8]. The Existing Conditions sections below identify USFWS-designated critical habitat within each region.

WATERS OF THE UNITED STATES (INCLUDING WETLANDS)

For the purpose of this document, the term "waters of the United States" is an encompassing term used by the U.S. Army Corps of Engineers (Corps) for areas that would qualify for federal regulation under Section 404 of the Clean Water Act. Waters of the United States are separated into wetlands and other waters of the United States.

Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 Code of Federal Regulations [CFR] 328.3[b], 40 CFR 230.3). To meet the Corps' criteria as a Section 404 wetland, a site must be subject to hydrological conditions that result in inundated or saturated soils, and that support vegetation that is adapted to such conditions.

"Other waters of the United States" are sites that typically lack one or more of the three indicators identified above (wetland hydrology, vegetation, or soils). Other waters of the United States that may occur in the project area include drainages and seasonal wetlands that form in shallow, disturbed depressions in ruderal habitat. For the purpose of this document, drainages include all streams, creeks, rivers, and other surface features with defined beds and banks.

Major waters of the United States are discussed below in the regional discussions of aquatic habitat. In addition to these major rivers and streams, numerous wetlands and other waters of the United States subject to Corps jurisdiction are present within the project area and may affected by subsequent activities. Wetland habitats in the project area include freshwater emergent wetland, saline emergent wetland, seasonal wetlands, and vernal pools. For subsequent activities to this Program EIR, Sempra Communications will identify all potentially jurisdictional features in the vicinity of proposed construction operations, and include those details in the work plan submitted to the CPUC prior to construction. Measures outlined in this document to avoid or minimize impacts to wetlands and other waters of the United States will apply to all jurisdictional features identified in work plans proposed by Sempra Communications.

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7 Critical habitat for Central Valley chinook salmon (spring run) and Southern California steelhead was designated by the National Marine Fisheries Service (NMFS) and National Oceanic and Atmospheric Administration (NOAA).

8 On February 25, 2002 the 10th Circuit Court of Appeals in Los Angeles voided USFWS-designated critical habitat for the California gnatcatcher and San Diego fairy shrimp. The action was in response to a Bush administration request for reevaluation of critical habitat under the claim that USFWS had not done an adequate assessment of the economic impacts of critical habitat designation. On March 11, 2002, the Bush administration proposed to withdraw critical habitat designations for 19 species of threatened and endangered salmon and steelhead in California, Oregon, Washington and Idaho.

4.4.3 EXISTING CONDITIONS FOR THE SACRAMENTO METROPOLITAN REGION

REGIONAL SETTING

The Sacramento metropolitan region is located within the Great Valley ecological subregion (Miles and Goudey, 1998). This region of the project area encompasses the entirety of the City of Sacramento, as well as surrounding County-incorporated communities with moderate population density. Based on habitat mapping, the majority of this region of the project area consists of urban landscaping, agricultural, and annual grassland habitats. Biological resources in the Sacramento metropolitan region are predominantly associated with large tracts of undeveloped and uncultivated lands, which are typically non-native grasslands used for gazing. These areas also support oak woodlands, perennial grasslands, remnant alkali grasslands, and vernal pools and other seasonal wetlands with relatively high potential to support special status plant and wildlife species. Rivers, streams, lakes and ponds support a variety of other wetland habitats, including riparian forest, wetland and scrub, freshwater marsh, and also riverine and palustrine habitats.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the Sacramento Metropolitan region of the project area include annual grassland, ruderal habitats, urban landscaping, agricultural habitats, and oak woodlands as described in Section 4.4.2. These common communities are the most likely to be encountered by project construction activities due to project design along paved routes or other previously disturbed rights of way.

Sensitive Plant Communities and Associated Wildlife Habitats

Vernal Pools

Vernal pools in the Sacramento Valley are considered sensitive habitats because of the special status species they support and because of the significant reduction of this habitat type due to agricultural and urban development. Representative plants species found in vernal pool habitats include popcorn flower, spikerush, coyote thistle, goldfields, tri-color monkey flower, and California hairgrass. Special status species that occur exclusively in vernal pool habitats and which may occur in vernal pools in the Sacramento project region include vernal pool fairy shrimp, vernal pool tadpole shrimp, conservancy fairy shrimp, Boggs Lake hedge-hyssop, and Sacramento orcutt grass. Although vernal pools occur naturally in grassland and woodland settings, they can also occupy disturbed locations where underlying soil conditions remain intact. For example, railroad rights of way and other disturbed locations do support seasonal wetlands with plant and invertebrate populations characteristic of vernal pools.

Great Valley Cottonwood Riparian Forest

Great Valley cottonwood riparian forest and riparian scrub communities are associated with major rivers and creeks in the Sacramento metropolitan region, including the Sacramento River, American River, Cosumnes River, and other large perennial creeks. Some riparian habitats in this region have been highly disturbed in some instances by farming, and residential and commercial development. Both Great Valley cottonwood riparian forest and riparian scrub communities provide habitat for various passerines, waterbirds and amphibians and provide a source of water and movement corridor for many wildlife species. Species that typically occupy this habitat include black-crowned night-heron, green-backed heron, great blue heron, belted kingfisher, and river otter. Riparian forests also function as foraging and breeding habitat for special status raptors such as Cooper's hawk, sharp-shinned hawk, white-tailed kite. Riparian forests along permanent waterways with a more or less continuous canopy of trees near grassland, irrigated pasture, alfalfa or grain fields provide high quality habitat for the state Threatened Swainson's hawk.

Aquatic Habitat/Freshwater Emergent Wetland

The Sacramento and American Rivers and larger perennial creeks and streams provide aquatic habitat that supports fisheries. Several special-status fish species are known to occupy the Sacramento and American River drainages and major tributaries, including steelhead trout, chinook salmon, delta smelt, and Sacramento splittail. These drainages also provide potential habitat for green sturgeon, river lamprey, Pacific lamprey, and longfin smelt. Moderate to good quality habitat that supports native fisheries, including salmonids (trout and salmon) is typically attributed to streams that retain the following habitat elements: runs and deep pools; natural bed material suitable for spawning, and overall diversity of grain size from silt to boulders; in-channel cover from predators, such as large boulders, root wads, and overhanging banks; natural bank configuration, including an unconstrained floodplain; and intact riparian canopy that provides shade over a substantial portion of most reaches. Special status species which may inhabit drainages or adjacent freshwater emergent wetland habitat in the Sacramento metropolitan area region include California red-legged frog, northwestern pond turtle, giant garter snake, and tricolored blackbird.

Special Status Plants

A total of 23 special-status plant species were identified with potential to occur in the Sacramento Metropolitan region (see Appendix E). Of these species, 7 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the Sacramento Metropolitan region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species. Potential habitat for special status plants may be located in low-density residential and agricultural areas (i.e., grazing) which would have a low likelihood of being directly or indirectly affected by specific projects. Vernal pools and other seasonal wetlands could occur in public utility rights of way in the project region.

These wetlands have the potential to support Boggs lake hedge-hyssop, slender orcutt grass, Sacramento orcutt grass.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this project area region is described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special Status Wildlife

A total of 72 special status wildlife species were identified in the Sacramento Metropolitan region (see Appendix E). Of these, 22 are listed Threatened or Endangered species or candidate species for listing. Based on field studies for other fiber optic network projects in the Sacramento Metropolitan region (see references in Section 4.4.1), the following species were determined to be most likely to occur in habitats within or adjacent to alignments typical of fiber optic network projects in the project area: Valley elderberry longhorn beetle, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, Swainson's hawk, California red-legged frog, western spadefoot, Cooper's hawk, sharp-shinned hawk, tricolored blackbird, loggerhead shrike, burrowing owl, and white-tailed kite. Crossings of streams and rivers could have potential effects on delta smelt, Central Valley steelhead, Winter run chinook salmon, Central Valley fall/late fall-run chinook salmon, Central Valley spring run chinook salmon, Sacramento splittail, green sturgeon, river lamprey, Pacific lamprey, longfin smelt, northwestern pond turtle, and giant garter snake. Mammal species of concern to the project are limited to bats, predominantly of the genus *Myotis*, which may establish roosts under bridges and in abandoned buildings in otherwise ruderal or urban habitats near woodlands or in close association with water bodies. All bat species are Species of Special Concern in California.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for the delta smelt and valley elderberry longhorn beetle is located within the Sacramento Metropolitan region of the project area. Areas designated as critical habitat for Central Valley winter run chinook salmon and areas previously designated as critical habitat for Central Valley spring run chinook salmon are also located within this region of the project area.

The **delta smelt** spends a large portion of the year in brackish water and estuarine habitats in Suisun Bay and the Sacramento-San Joaquin River Delta. This species is tolerant of a wide salinity range and has been observed in water up to 14 grams per liter salinity. Spawning occurs between December and August in shallow, fresh water in river channels and tidally-influenced backwater sloughs. Eggs are attached to emergent or submerged vegetation such as cattails, tules and tree roots. Loss of estuarine habitat as well as modification of water flow in Delta tributaries has contributed to the decline of this species.

The **valley elderberry longhorn beetle** occurs throughout the Central Valley in association with elderberry trees in riparian habitats. Adults forage on the elderberry trees until June when mating begins and the females lay their eggs in bark crevices. Once the larvae hatch, they bore into stems 1.0 inch or greater and spend the next 1-2 years foraging on the interior wood. Adults emerge during the spring. Agricultural, commercial, and residential development in the Central Valley has resulted in the removal of native riparian habitat which once supported elderberry trees and the valley elderberry longhorn beetle.

Chinook salmon spend the majority of their lives in marine waters from their birth until adulthood. They migrate from the ocean to freshwater rivers and streams of their birth to spawn. Females lay their eggs in gravelly streams and adult chinook salmon die within a month of spawning. Juvenile chinook migrate to estuarine waters within two years of birth. Subsequently, they travel to the ocean to forage and mature.

4.4.4 EXISTING CONDITIONS FOR SAN FRANCISCO BAY AREA REGION

REGIONAL SETTING

The San Francisco Bay Area region the project area coincides with the most densely populated areas, as shown on project area maps in **Figures 3-2** through **3-7** in Chapter 3. This area consists primarily of urban, residential, industrial and commercial and developed areas, but also includes undeveloped areas with natural vegetation and habitat value that exist as patches within or at the edges of urbanization, and habitat areas along the San Francisco Bay shoreline.

The project area also includes the San Francisco Bay and numerous rivers and creeks that feed into it, originally a complex of salt and freshwater wetlands and associated uplands. A high plant and animal species diversity and high degree of endemism of plants and animals—several butterfly species occur only in the Bay Area—are notable attributes.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the San Francisco Bay Area region include urban landscaping, annual grassland, chaparral, coastal scrub, agricultural, eucalyptus woodland, and ruderal habitats as described in Section 4.4.2. Some grasslands on the San Francisco peninsula and in the Santa Clara Valley may contain small areas of serpentine grasslands, which are described in the sensitive plant communities section below.

Sensitive Plant Communities and Associated Wildlife Habitats

Serpentine Grassland

Serpentine grasslands are derived from thinly-soiled and rocky ultramafic (serpentine) substrate and are simultaneously high in magnesium and low in calcium. Although these areas support species common in nonserpentine grasslands, some plant species occur only in serpentine areas. Common plant species in serpentine grassland include wild oats, purple needlegrass, goldfields, California poppy and dwarf plantain. Special status species occurring in the serpentine grassland include Setchell's dudleya, uncommon jewelflower and the larval food plants of the federally Threatened Bay checkerspot butterfly (dwarf plantain and owl's clover) and Oplers longhorn moth (cream cups).

Mesic Serpentine Chaparral/Central Maritime Chaparral

Mesic serpentine chaparral occurs on shallow, stony, infertile serpentine soils in central and northern California. Serpentine outcrops in the San Francisco Bay Area region of the project area may support this community. Mesic serpentine chaparral is classified as a sensitive plant community by CNDDB because of the special status plant species which it may include. Chamise chaparral and toyon are the dominant species in mesic serpentine chaparral. Associate species include the following: Coyote ceanothus (*Ceanothus ferrisae*), dwarf ceanothus (*Ceanothus pumilus*), leather oak (*Quercus durata*), Congdon's silk tassel (*Garrya congdonii*), and California juniper (*Juniperus californica*). Central maritime chaparral communities occur in well-drained, sandy soils and are dominated by wooly-leaf manzanita and chamise. Associate species include coffeeberry, redberry, manzanita (*Arctostaphylos* sp.), and ceanothus (*Ceanothus* sp.). Wildlife habitat provided by mesic serpentine chaparral and central maritime chaparral is similar to that of other communities within the chaparral habitat type as described in Section 4.4.2 above.

Upland Douglas Fir Forest

Upland Douglas fir forests occur in the Coast Ranges in deep, well-drained soils. Douglas fir is the dominant species in this community with the following associate species: salal (*Gaultheria shallon*), oceanspray (*Holodiscus discolor*), and western hemlock (*Tsuga* sp.). Wildlife species potentially occurring in upland Douglas fir forest in the project area include golden-crowned kinglet, red-tailed hawk, sharp-shinned hawk, ensatina, deer mouse, dusky-footed woodrat, and shrew-mole.

Monterey Pine Forest

Monterey pine is the dominant species in Monterey pine forest communities followed by coast live oak. Associate species include poison oak, coyote brush, woolly-leaf manzanita (*Arctostaphylos tomentosa*), California bedstraw (*Galium californicum*), and toyon. This community naturally occurs on sandy soils in coastal areas in the vicinity of the Monterey Peninsula. Monterey pine occurs in a much larger area as an ornamental landscaping species.

Raptors such as red-tailed hawk and great horned owl may nest in Monterey pine trees within the project area.

Valley Oak Woodland

Valley oak woodland occurs within the project area in Santa Clara County. CNDDB considers this plant community sensitive. The tree component of this community is usually dominated soley by valley oak in open stands with a grassy understory. Canopy cover rarely exceeds 30%–40%. As described in Section 4.4.2, valley oak woodlands may support various amphibian and reptile species, resident and migratory bird species, and nesting raptors such as red-tailed hawk, Cooper's hawk, sharp-shinned hawk, and white-tailed kite.

California Bay Forest

California bay forest is similar in structure to mixed evergreen forest, but with California bay as the only species. This community is usually dense with little or no understory and occurs on moist slopes. Some species which may be present within California bay forest include wooly-leaf manzanita, California blackberry (*Rubus ursinus*), and snowberry (*Symphoricarpus alba*). California bay forests may provide foraging habitat for mule deer, California ground squirrel, dusky-footed woodrat, acorn woodpecker, and western scrub jay. Western rattlesnake, western fence lizard, and Pacific slender salamander may inhabit California bay forests as well.

Northern Coastal Salt Marsh

Northern coastal salt marsh occurs in the San Francisco Bay Area region in association with the Bay itself and tributary drainages and tidal sloughs. These wetlands and adjacent areas are important feeding and resting areas for migrating waterfowl, and under the right conditions can provide habitat for the following special status species: western snowy plover, California least tern, California clapper rail, California black rail, and salt marsh harvest mouse.

Riparian Forest, Woodland and Scrub

San Mateo Creek (San Mateo), San Francisquito Creek (Palo Alto), Los Gatos Creek (San Jose), Guadalupe River (San Jose), Coyote Creek (San Jose) and other larger rivers and creeks in the San Francisco Bay Area region support riparian forest, woodland, and scrub communities. Riparian communities provide habitat for numerous common amphibians, reptiles, mammals, and birds. In addition, large trees within these communities provide potential foraging and nesting habitat for a variety of special status species such as Cooper's hawk, sharp-shinned hawk, and white-tailed kite.

Aquatic Habitat/Freshwater Emergent Wetland

Numerous perennial, intermittent and ephemeral drainages enter San Francisco Bay, and most retain aquatic habitat values in at least some reaches. Special-status fish species that occupy San Francisco Bay could also inhabit at least the lower reaches of some drainages. Streams that provide moderate to high quality freshwater aquatic habitat and support common and potentially

sensitive fisheries resources include: Corte Madera Creek (Corte Madera), Colma Creek (South San Francisco), San Francisquito Creek (Palo Alto), Los Gatos Creek (San Jose), Guadalupe River (San Jose), Coyote Creek (San Jose), Alameda Creek (Fremont); Wildcat Creek (Richmond), Rodeo Creek (Rodeo), Walnut Creek (Martinez), among others. Brackish water creeks such as San Lorenzo Creek (San Leandro), Lake Merritt inlet (Oakland), and Colma Creek (San Francisco) typify channelized tidal streams, with steep, narrow banks, bank armoring (*i.e.*, riprap), and non-native vegetation lacking a developed riparian canopy. Special status species potentially occurring in drainages within the San Francisco Bay Area region include steelhead, chinook salmon, and Pacific lamprey. California red-legged frog, and San Francisco garter snake may occur in these drainages and adjacent streamside habitats. Freshwater emergent wetlands provide nesting habitat for tricolored blackbird. Lakes and ponds in this region also are relatively abundant, and provide varying degrees of aquatic habitat depending on size and condition.

Special-Status Plants

A total of 181 special-status plant species were identified with potential to occur in the proposed San Francisco Bay Area region (see Appendix E). Of these species, 44 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the San Francisco Bay Area region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

Critical Habitat for Listed Plant Species

USFWS-designated critical habitat for the Antioch Dunes evening primrose and Contra Costa wallflower is located within the San Francisco Bay Area region of the project area. The USFWS has proposed critical habitat for Santa Cruz tarplant within the San Francisco Bay Area region.

The federal and California Endangered **Antioch Dunes evening primrose** (*Oenothera deltoides* var. *howellii*) and **Contra Costa wallflower** (*Erysimum capitatum* var. *angustatum*) occur along the San Joaquin River in the Antioch Dunes of Contra Costa County. The majority of the original sand and stabilized-dune habitat at the Antioch Dunes has been reduced by various types of industrial and agricultural development. The remaining area which supports these two plant species is protected as part of the San Francisco Bay National Wildlife Refuge.

The **Santa Cruz tarplant** (*Holocarpha macradenia)* is a federal Threatened and California Endangered species. It is found on clay and clay loam soils near the coast, in areas with summer fog. It is reported as occurring on hard-packed soil, sometimes in disturbed sites, and on coastal prairie and annual grasslands. The historic range of Santa Cruz tarplant is from Marin and Contra Costa counties southward to Monterey County. It is now presumed extirpated from Marin and Alameda counties, and remains in Contra Costa County only as an introduced population on East Bay Regional Park lands.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area is described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 117 special status wildlife species were identified in the San Francisco Bay Area region (see Appendix E). Of these, 45 are listed Threatened or Endangered species or candidate species for listing. Based on field studies for other fiber optic network projects in the San Francisco Bay Area (see references in Section 4.4.1), the following species were determined to be most likely to occur in habitats within or adjacent to alignments typical of fiber optic network projects in the project area: California red-legged frog, Alameda whipsnake, San Francisco garter snake, western pond turtle, tricolored blackbird, loggerhead shrike, burrowing owl, Cooper's hawk, sharp-shinned hawk, and white-tailed kite. As mentioned above, small relict areas of serpentine grasslands on the Peninsula and in the Santa Clara Valley support several highly endangered butterfly species. Streams and rivers in the project area could support steelhead, chinook salmon, and Pacific lamprey. Tidal marsh areas, even when adjacent to highly urbanized sites, can support western snowy plover, California least tern, California clapper rail and California black rail (rails susceptible to disturbances several hundred feet away during nesting season), and the salt marsh harvest mouse. Other mammal species of concern to the project are limited to bats, predominantly of the genus *Myotis*, which may establish roosts under bridges and in abandoned buildings in otherwise ruderal or urban areas. All of the bats are Species of Special Concern in California.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for the Alameda whipsnake, the California red-legged frog, the bay checkerspot butterfly, and the delta smelt is located within the San Francisco Bay Area region of the project area. Areas designated as critical habitat for Central Valley winter run chinook salmon and areas previously designated as critical habitat for Central Valley spring run chinook salmon are also located within this region of the project area. Chinook salmon and Delta smelt are discussed in Critical Habitat in Section 4.4.3.

The **Alameda whipsnake** (*Mastocophis lateralis euryxanthus*) is a California and federal Threatened species that inhabits primarily chaparral, Diablan sage scrub, northern coyote brush scrub, and riparian scrub communities. Within their home ranges, whipsnakes maintain "core areas" or areas of concentrated use that consist of open to partially open scrub communities on east-, southeast-, south-, or southwest-facing slopes (Swaim, 1994). Rock outcrops and talus are important features of these core areas. Whipsnakes may utilize various habitats immediately adjacent to their core areas, including oak woodland/savanna and grassland areas (Swaim, 1994). Prey items of the whipsnake include western fence lizard *(Sceloporus occidentalis)* as well as western skink *(Eumaces skiltonianus)*, southern alligator lizard *(Gerrhonotus multicarinatus)*, and Gilbert skink *(Eumaces gilberti)* (Larsen et al., 1991).

The **California red-legged frog** (*Rana aurora draytonii*), a federal Threatened species and California Species of Special Concern, is chiefly a pond frog that can be found in quiet permanent waters of ponds, pools, streams, springs, marshes, and lakes. Moist woodlands, forest clearings, and grasslands also provide suitable upland habitat for this species in the non-breeding season (Stebbins, 1985). Adult frogs seek waters with dense vegetation, such as cattails, along the shore for cover, but may be found in unvegetated waters as well. Red-legged frogs are active year-round along the coast but will aestivate from late summer to early winter inland. Adults consume insects such as beetles, caterpillars and isopods, while tadpoles forage on algae and detritus.

Serpentine bunchgrass grassland which supports plantain (*Plantago erecta*), provides habitat for the federal Threatened **bay checkerspot butterfly (***Euphydryas editha bayensis*). Females lay their eggs on the plantain and the larvae feed on this species. Larvae may also feed on two species of owl's clover (*Castilleja densiflorus* or *C. exserta*), which tend to provide food resources for the larvae after plantain has dried up. Usually larvae enter dormancy after summer and pupate at the end of winter, after feeding on new plant growth.

4.4.5 EXISTING CONDITIONS FOR SANTA CRUZ REGION

REGIONAL SETTING

The Santa Cruz region is a mosaic of upland oak, mixed evergreen, and redwood forests, native and non-native grasslands, upland scrubs, wetland communities, and riparian scrubs and forests. This region is near the regional separation between the Bay Area-Delta and South-Central Coast Bioregions (Miles and Goudey, 1998). This position places Santa Cruz within the range of several species common to either bioregion. In addition, proximity of the coastal mountains has partially isolated the area, resulting in the evolution of several species restricted to this area alone. The phenomenon has been noted by natural scientists for some time: one of the earliest animals to receive endangered species status was the highly localized Santa Cruz long-toed salamander listed under the precursor to the Endangered Species Act in 1967. The Santa Cruz region also includes the City of Watsonville which is located within the Pajaro Valley, a wide plain between the Coast Ranges and Monterey Bay. Deep, alluvial soils along the floodplain of the Pajaro River support vineyards of grapes and orchards of apples, stone fruits and walnuts, and a variety of row crops in this agricultural area.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the Santa Cruz region of the project area include urban landscaping, grassland, chaparral, coastal scrub, mixed evergreen forest and oak woodland habitats as described in Section 4.4.2. A significant portion of non-urbanized Watsonville supports intensive agriculture.

Sensitive Plant Communities and Associated Wildlife Habitats

Riparian Forest, Woodland and Scrub

Central coast riparian scrub occurs most often as a dense, broadleafed, winter-deciduous thicket of arroyo willow. This community typically occurs in areas of fine-grained sand and gravel with shallow groundwater. Central coast riparian scrub is distributed along and at the mouths of most perennial and many intermittent streams of the South coast Ranges from the Bay Area south to Point Conception (Holland, 1986) and is likely limited within the Santa Cruz region of the project area. Riparian habitat associated with the San Lorenzo and Pajaro Rivers may support yellow-breasted chat and yellow warbler, both special status species.

Aquatic Habitat

The San Lorenzo and Pajaro Rivers, Salispuedes Creek and some of their tributaries provide perennial aquatic habitat in the Santa Cruz region and support steelhead and other fishes. Numerous smaller drainages provide seasonal aquatic habitat for species such as Pacific chorus frog and common garter snake. Sandy banks along the Pajaro River provide breeding habitat for western pond turtles. Some reaches of the Pajaro River may support California red-legged frog, though much of the river is too swift to provide breeding habitat. This species is also known to occur in various streams and tributaries in the region.

Special-Status Plants

A total of 43 special-status plant species were identified with potential to occur in the Santa Cruz region (see Appendix E). Of these, 17 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the Santa Cruz region of the project area consists of agricultural, commercial, industrial and residential developments with no habitat for special status plant species.

Critical Habitat for Listed Plant Species

The USFWS has proposed critical habitat for Santa Cruz tarplant and robust spineflower within the Santa Cruz region of the project area. Santa Cruz tarplant is described in Critical Habitat in Section 4.4.4 above.

The **robust spineflower** (*Chorizanthe robusta* var. *robusta*) is a federal Endangered species. It occurs in sandy or gravelly soils in coastal scrub, coastal dunes, and in openings in oak woodland (Skinner and Pavlik, 1994). It is reported in some CNDDB records as occurring in sandy soils in coastal scrub and chaparral, but also in more sheltered sites. It grows best on lightly disturbed patches where grass competition is relatively low. It is also reported on the edge of sandy bluffs and terraces. It has been reported growing in association with typical coastal scrub species such as *Eriophyllum staechadifolium, Artemisia pycnocephala, Gnaphalium bicolor, Ericameria ericoides, Baccharis pilularis*, and the federally-listed *Gilia tenuiflora* ssp. *arenaria* (CNDDB, 2002). It also is noted as occurring in close association with some weedy species found in sandy

soils: iceplant (*Carprobrotus* sp.) and pampas grass (*Cortaderia* sp.). This species once ranged from Alameda to Monterey counties, but is currently known only along and adjacent to the coast of southern Santa Cruz and northern Monterey counties.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area is described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 43 special status wildlife species were identified in the Santa Cruz region (see Appendix E). Of these, 17 are listed as Threatened or Endangered species or candidate species for listing. Special status species with potential to occur in habitats within the Santa Cruz region of the project area include California red-legged frog and California tiger salamander. Red-legged frogs are well-distributed along many streams in Santa Cruz County; tiger salamanders are known to be present at Ellicott Pond (four miles northwest of Watsonville); near Moss Landing, adjacent to Elkhorn Slough and at several other localities. Santa Cruz long-toed salamanders breed in suitable wet meadow habitat at low elevations within the region. Both salamanders and red-legged frogs are known to travel up to a mile from their breeding ponds. The San Lorenzo and Pajaro Rivers support populations of the federal Threatened steelhead and provide potential habitat for yellow warbler and yellow-breasted chat.

The Ohlone tiger beetle may inhabit sunny areas of bare or sparsely vegetated ground in coastal terrace grassland habitat within the project area. The tidewater goby is found in the Pajaro Lagoon and the three-toed salamander in sloughs near Moss Landing, though subsequent activities are not likely to be located in the vicinity of habitat for these species.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for California red-legged frog is located within the Santa Cruz region of the project area. California red-legged frog ecology is discussed in Critical Habitat in Section 4.4.4.

4.4.6 EXISTING CONDITIONS FOR FRESNO REGION

REGIONAL SETTING

The Fresno region is located within the San Joaquin Valley, a highly agricultural and urbanized area. Over 95% of the Valley floor has been cultivated or developed for agricultural, urban, or industrial uses (USFWS, 1998). Despite this development, the extremely arid climate and the vernal pool and wetland habitat which this region supports have resulted in a high degree of

endemism in species which occur within grasslands, scrublands, vernal pools, and other seasonal wetlands this area.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the Fresno region of the project area include urban landscaping, ruderal, agricultural, and oak woodland habitats with agricultural and urban landscaping being the dominant land uses in the project region (see Section 4.4.2 for plant community and associated wildlife habitat descriptions).

Sensitive Plant Communities and Associated Wildlife Habitats

Great Valley Cottonwood/Great Valley Mixed Riparian Forest

Great Valley cottonwood riparian forest and Great Valley mixed riparian forest along the San Joaquin River and some smaller drainages comprise riparian habitat in the Fresno region. Dominant species in these forests include cottonwood, California sycamore, and valley oak. Associate understory species include wild rose, California blackberry and poison oak. Riparian habitat may support various passerines, amphibians, reptiles, and nesting raptors as described in Section 4.4.2.

Aquatic Habitat

In the Fresno region, the San Joaquin River provides perennial aquatic habitat and may support steelhead as well as various species of common fish. Other streams and drainages, such as Dry Creek, and urban canals provide seasonal aquatic habitat for common amphibians and reptiles.

Special-Status Plants

A total of 12 special-status plant species were identified with potential to occur in the proposed Fresno region (see Appendix E). Of these, 5 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the Fresno region of the project area consists of agricultural, commercial, industrial and residential developments with no habitat for special status plant species.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area were described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 63 special status wildlife species were identified in the Fresno region (see Appendix E). Of these, 17 are listed Threatened or Endangered species. Special status species with potential to occur in habitats within within Fresno region of the project area include: raptors, San Joaquin kit fox; blunt-nosed leopard lizard; and Fresno, giant and Tipton kangaroo rats. Oak woodland and riparian forest habitat in the Fresno region may support nesting raptors, including Cooper's hawk, sharp-shinned hawk, and white-tailed kite, and other special status nesting birds. The San Joaquin kit fox inhabits grasslands and scrublands, as well as uncultivated land within or around the edges of orchards and vineyards in agricultural areas. This species is also known to occur in areas near the urban interface. Kangaroo rats forage for seeds in grasslands or shrublands. Abandoned kangaroo rat burrows provide blunt-nosed leopard lizards with protection from predators and extreme temperatures.

4.4.7 EXISTING CONDITIONS FOR LOS ANGELES BASIN REGION

This Los Angeles Basin region of the project area consists of the Los Angeles plain and the San Fernando Valley within Los Angeles County and Orange County. The Los Angeles plain, which is the largest part of the subsection is south of the Santa Monica and San Gabriel Mountains and west of the San Jose and the Puente Hills. The climate is hot and sub-humid; it is modified by marine influence greatly on the Los Angeles Plain and moderately in the San Fernando Valley.

The majority of the region is densely urbanized, which substantially limits the amount of natural habitat supporting sensitive biological resources that could be affected by subsequent activities in this region of the project area. The remaining natural areas consist of coastal sage scrub, chaparral, and oak woodlands with annual grassland and very small and isolated patches of freshwater emergent wetland, saline emergent wetland and riparian woodland and scrub.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities present in the Los Angeles Basin region of the project area include urban landscaping, annual grassland, oak woodland, chaparral and ruderal habitats as described in Section 4.4.2.

Sensitive Plant Communities and Associated Wildlife Habitats

Sensitive plant communities in the Los Angeles Basin region of the project area include southern coast live oak riparian forest and southern cottonwood-willow riparian forest as discussed in Section 4.4.2. In addition, diegan coastal sage scrub, riversidean coastal sage scrub, and California walnut woodland are considered sensitive in this region by CDFG (CNDDB 2002) due to fragmentation or reduction as a result of extensive development in the region.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub communities cover steep canyon slopes and bluffs where the soil is shallow and rocky. Dominant plant species include California sage, coast buckwheat, laurel sumac, black sage, white sage, and broom baccharis. Coastal sage scrub communities are considered sensitive communities due in part to the high number of special status species that occupy this habitat, including California coastal gnatcatcher, coastal cactus wren, San Diego horned lizard, orange-throated whiptail, and others.

Riversidean Sage Scrub

Riversidean sage scrub occurs in xeric environments such as steep slopes or other sites with severely drained soils. Dominant plant species in this community include California sagebrush and California buckwheat with associate species such as thickleaf yerba santa (*Eriodictyon crassifolium*), narrowleaf goldenbush (*Ericameria linearifolia*), white sage and black sage. Riversidean sage scrub provides habitat for various small mammals, reptiles, and birds as described in the discussion of coastal scrub in Section 4.4.2.

California Walnut Woodland

Southern California black walnut is endemic to southern California, with its distribution primarily restricted to the Santa Ana Mountains and coastal slopes of the Transverse Ranges of Los Angeles and Ventura Counties. Coast live oak and black walnut also occur in mixed woodland stands, where the two species are co-dominant. Other associate species include bigcone Douglas-fir (*Pseudotsuga macrocarpa*) and canyon live oak (*Quercus chrysolepis*). The habitat value of this plant community is often similar to that of oak woodland, supporting various reptiles, amphibians, passerines and nesting raptors such as Coooper's hawk, sharp-shinned hawk, and white-tailed kite.

Southern Coast Live Oak/Southern Cottonwood-Willow/White Alder Riparian Forest

Riparian habitats in the Los Angeles Basin region of the project area include southern coast live oak riparian forest, southern cottonwood-willow riparian forest, and white-alder riparian forest communities. Southern coast live oak riparian forest consists of coast live oak trees with a herbaceous understory and few understory shrubs. Southern cottonwood-willow riparian forest is composed of Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), black cottonwood (*P. balsamifera* ssp. *trichocarpa*), and an understory of shrubby willows. White alder riparian forest includes the most diverse understory of these three riparian communities with poison oak, California wildrose (*Rosa californica*), snowberry (*Symphoricarpos* sp.), and various willow species. Wildlife species that inhabit riparian forests in the project area are described in Section 4.4.2.

Aquatic Habitat/Freshwater Emergent Wetland

Most of the aquatic habitats in the Los Angeles Basin region have been eradicated or channelized within concrete corridors. Channelization of most of these waterways for flood control management has eliminated the majority of aquatic habitat or reduced it to a very low habitat

value. Streams with aquatic habitat, including the Santa Ana River and San Diego Creek, may support western pond turtle as well as common fishes. Freshwater marsh in the project area typically is dominated by perennial emergent monocots, including cattail and bulrush, as along the stream margins of San Diego Creek. For the most part, this community does not occur in drainages that are channelized and concrete-lined and is restricted in distribution in the Los Angeles Basin region.

Southern Coastal Salt Marsh

In the Los Angeles Basin region, southern coastal salt marsh habitat occurs at Malibu Lagoon, Ballona wetlands, and Upper Newport Bay. This habitat supports many species of shorebirds, wading birds, and waterfowl. Sandy beaches may support nesting special status species such as western snowy plovers and California least terns. Other special status species which may inhabit saline emergent wetland in the Los Angeles Basin region include California black rail and light-footed clapper rail.

Valley Oak Woodland

As described in Section 4.4.4, valley oak woodland is comprised of sparsely distributed valley oak trees with a grassy understory. Special status species which may occur within this habitat in the Los Angeles Basin region are restricted to nesting raptors such as Cooper's hawk, sharp-shinned hawk, and white-tailed kite. Common amphibians and reptiles such as Pacific chorus frog, gopher snake, western rattlesnake, and various species of foraging passerines may inhabit valley oak woodland in the project region as well.

Special-Status Plants

A total of 84 special-status plant species were identified with potential to occur in the proposed Los Angeles Basin region (see Appendix E). Of these, 25 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the Los Angeles Basin region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area are described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 70 special status wildlife species were identified in the Los Angeles Basin (see Appendix E). Of these, 28 are listed threatened and endangered species or candidates for listing. Species most likely to occur in habitats within or adjacent to alignments typical of fiber optic network projects in the project area were determined based on field studies for other fiber optic

network projects in the Los Angeles Basin (see references in Section 4.4.1). These species are discussed below.

Coastal beaches protected from human disturbance provide seasonal nesting habitats for California least terns and western snowy plovers. Special-status wildlife associated with freshwater marshes of the region include California red-legged frogs, southwestern pond turtles, great blue herons, great egrets, and bald eagles. Riparian habitats in the Los Angeles Basin region support small populations of special-status wildlife species such as least Bell's vireos, southwestern willow flycatchers, yellow warblers, yellow-breasted chats, and southwestern pond turtles and arroyo southwestern toads.

The largest assemblage of special-status wildlife species in the region is recorded within coastal sage scrub habitats. Small but intact fragments of this habitat can be found even in highly urbanized portions of the Basin and may support California gnatcatchers, coastal cactus wrens, San Diego horned lizards, orange-throated whiptails, Stephen's kangaroo rats, and Palos Verdes blue and Quino checkerspot butterflies.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for the arroyo southwestern toad, Riverside fairy shrimp, tidewater goby, and Palos Verdes blue butterfly is located within Los Angeles Basin region of the project area. In addition, areas previously designated by the USFWS or NMFS/NOAA as critical habitat for coastal California gnatcatcher, San Diego fairy shrimp, and southern California steelhead are included in the Los Angeles Basin region.

The **arroyo southwestern toad** (*Bufo microscaphus californicus*), a federal Endangered species and California Species of Special Concern, ranges from the Salinas River Basin to Baja California, Mexico. This species inhabits riparian areas with cottonwood, sycamore, and willow species and sandy streambeds. Desert riparian areas, and washes or intermittent streams also provide habitat. Depending on weather conditions, breeding occurs between March and July in slow-moving shallow pools with gravel or sand substrate. Habitat loss due to urbanization, agriculture and dam construction has contributed to the decline of this species. In addition, the introduction of predatory species such as green sunfish, crayfish, and bullfrogs has adversely affected the arroyo southwestern toad.

The federal Endangered **Riverside fairy shrimp** (*Streptocephalus woottoni*) and **San Diego fairy shrimp** (*Branchinecta sandiegonensis*) inhabit vernal pools and seasonal wetlands from the south coast of California to Baja California, Mexico. These basins typically hold water until April or May due to an impermeable soil layer which prevents water from percolating into soil layers below. Winter or spring rains fill these basins with water and initiate the hatching of fairy shrimp cysts which were deposited in the basin during the previous rainy season. Cysts usually hatch one to three weeks after inundation depending on water temperature and other conditions. During the dry season, cysts may survive temperature extremes and arid conditions until the basins are filled again.

The federal Endangered **tidewater goby** (*Eucyclogobius newberryi*), a California Species of Special Concern, inhabits brackish coastal waters of California. This species may be found in aquatic habitats with a wide range of salinity from freshwater habitats to lagoons and estuaries. Males dig breeding burrows in April or May in sand or mud substrate. Depending on temperature and rainfall, tidewater gobies may continue to breed into November or December. Foraging resources include benthic invertebrates, crustaceans, and aquatic insect larvae.

The **Palos Verdes blue butterfly** is known from one remaining site in San Pedro on the Palos Verdes Peninsula. This species was thought to be extinct for eleven years until this population was discovered in 1994. This coastal scrub habitat supports locoweed, the host plant of this species. Adults emerge in the spring to mate when the host plant begins to flower. Locoweed flowers and seeds provide foraging resources for the larvae. By fall the larvae have transformed into adult butterflies. This species goes through one generation per year.

The **coastal California gnatcatcher** (*Polioptila californica californica*) is federal Threatened species which occurs almost exclusively in the coastal sage scrub plant community (occasionally, it is also found in chaparral). The southern limit of its range coincides with the distribution boundary of this distinctive vegetation type. Coastal sage scrub vegetation which supports coastal California gnatcatcher is composed of relatively low-growing, summer (dry-season) deciduous, and succulent plants. Characteristic plants of this community include California sagebrush, various species of sage, California buckwheat, lemonadeberry, prickly pear and cholla cactus, and various species of Haplopappus (USFWS, 1993). The coastal California gnatcatcher commonly occurs in coastal sage scrub vegetation dominated by coastal sagebrush although in some portions of its range (e.g., western Riverside County) other plant species may be more abundant.

Malibu Creek, and the Santa Clara, Santa Ynez, and Ventura Rivers are known to support **southern California ESU (Evolutionarily Significant Unit) steelhead** (*Oncorhynchus mykiss).* Within the project area, critical habitat for this ESU of steelhead applies to all unblocked river reaches which steelhead may use within the Santa Clara and Santa Monica Bay hydrologic units. In addition, riparian zones and estuarine areas are protected. Dam construction, modification of habitat, and introduction of non-native species has adversely impacted all life stages of steelhead and contributed to the decline of this species in southern California.

4.4.8 EXISTING CONDITIONS FOR SAN BERNARDINO REGION

REGIONAL SETTING

The San Bernardino region of the project area includes the cities of San Bernardino, Ontario, Rancho Cucamonga, Chino, Redlands and Upland (see **Figure 4.4-9**). This region is located in the Southern California Mountains and Valleys ecological subregion, which is separated from the Los Angeles Basin by the Puente and Chino Hills. The San Bernardino region is densely urbanized with small patches of natural vegetation within the region or at the edges. Predominant natural vegetation includes chaparral, oak woodland and mixed evergreen forest habitats.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the San Bernardino region include agricultural, urban landscaping, mixed evergreen forest, and chaparral habitats as described in Section 4.4.2. Coastal scrub habitat within the San Bernardino region is considered sensitive because two sensitive plant communities, diegan coastal sage scrub and riversidean sage scrub, occur in this region.

Sensitive Plant Communities and Associated Wildlife Habitats

Diegan coastal sage scrub, riversidean sage scrub, and California walnut woodland occur within the San Bernardino region. These sensitive plant communities are described above in Section 4.4.7.

Special-Status Plants

A total of 51 special-status plant species were identified with potential to occur in the proposed San Bernardino region (see Appendix E). Of these, 19 are listed as Rare, Threatened or endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the San Bernardino region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area were described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 47 special status wildlife species were identified in San Bernardino region (see Appendix E). Of these, 23 are listed Threatened or Endangered species or candidates for listing. Special status species with potential to occur in habitats within this region of the project area are similar to those species identified as potentially occurring in the Los Angeles Basin region. Various species of birds, including coastal cactus wren and coastal California gnatcatcher may breed in coastal sage scrub in this region; Bell's sage sparrow may breed in chamise chaparral habitats. Reptiles such as silvery legless lizard, orange-throated whiptail, San Diego horned lizard, San Bernardino ringneck snake, and California mountain kingsnake may inhabit chaparral and scrub habitats in the region. Mammal species potentially occurring within the San Bernardino region include San Diego black-tailed jackrabbit, *Myotis* bat species, and the San Bernardino and Stephens' kangaroo rats. Aquatic habitat in this region of the project area may support California red-legged frog and mountain yellow-legged frog.

Critical Habitat for Listed Wildlife Species

The USFWS has proposed critical habitat for the San Bernardino kangaroo rat within the San Bernardino region of the project area. Areas previously designated by the USFWS as critical habitat for coastal California gnatcatcher also occur within the San Bernardino region. This species is discussed in Critical Habitat in Section 4.4.7.

The **San Bernardino kangaroo rat** (*Dipodomys merriami parvus*) inhabits alluvial fans, flood plains, and washes in the San Bernardino and San Jacinto Valleys. This species also may inhabit sandy, open areas in various scrub and chaparral habitats with low shrub canopy cover. As with other kangaroo rats, seeds and grains make up the primary food source of the San Bernardino kangaroo rat and are often cached for storage. Other food items include herbaceous vegetation, shrubs, and insects.

4.4.9 EXISTING CONDITIONS FOR RIVERSIDE COUNTY REGION

REGIONAL SETTING

Riverside County includes the eastern end of the Los Angeles Basin, the Coachella Valley and Palm Springs deserts, the San Jacinto, Little San Bernardino, and Santa Rosa mountains, and the Santa Ana Creek, which flows through this region of the project area. The Riverside County region includes primarily urban and agricultural areas and fringes of natural communities which surround the City of Riverside. During the 1980's, Riverside County was the fastest-growing county in California with its resident population expanding by 76% during that decade alone (County of Riverside, 2002). The Riverside County region of the project area includes many of these areas which have experienced rapid population growth and urban development.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities in the Riverside County region include agricultural, urban landscaping, and chaparral habitats as described in Section 4.4.2. Coastal scrub habitat in the Riverside County region is considered sensitive because two sensitive plant communities, diegan coastal sage scrub and riversidean sage scrub, occur in this region.

Sensitive Plant Communities and Associated Wildlife Habitats

Diegan Coastal Sage Scrub/Riversidean Sage Scrub

Diegan coastal sage scrub, and riversidean sage scrub occur within the Riverside County region. These sensitive plant communities are described above in Section 4.4.7.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest is described above in Section 4.4.7. This plant community may occur along Santa Ana Creek and other drainages in the Riverside County region of the project area. Riparian corridors within the region which receive frequent flooding may also support mulefat scrub.

Aquatic Habitat

Interior lakes that are especially important to wildlife in the region include Silverwood Lake, Lake Arrowhead, Big Bear Lake, and Baldwin Lake in the San Bernardino Mountains, and Lake Hemet in the San Jacinto Mountains. There a number of lakes, including Lake Matthews, Lake Skinner and the Prado Basin in western Riverside County, which serve primarily as reservoirs of potable water, or for flood control, water conservation or emergency storage, but which also support numerous species of wildlife. The open water and emergent vegetation associated with these aquatic habitats are of great importance to birds and other wildlife. Aquatic habitat in the Riverside County region is limited to Santa Ana Creek and its tributaries and flood control channels.

Vernal Pools

Vernal pools are seasonal freshwater wetlands that occur in depressions in grassland over an impermeable soil layer. They are characterized by annual species with low cover and a short life cycle. One example in Riverside County is the Southern Interior Basalt Flow Vernal Pools. This is a sensitive community limited to three mesas of Santa Rosa Plateau in southwestern Riverside County. Special status species potentially occurring in vernal pools in the Riverside County region of the project area include Riverside fairy shrimp and San Diego fairy shrimp.

Special-Status Plants

A total of 49 special-status plant species were identified with potential to occur in the proposed Riverside County region (see Appendix E). Of these, 18 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of Riverside County region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area are described in the discussion of plant communities and wildlife habitats in Section 4.4.1. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 51 special status wildlife species were identified in the Riverside County region (**Table E-8** in Appendix E). Of these, 24 are listed Threatened or Endangered species or candidates for listing. Special status species with potential to occur in habitats within this region of the project area are similar to those species identified as potentially occurring in the Los Angeles Basin region. Additional wildlife species which may occur in vernal pool habitat within this region include Riverside fairy shrimp, and San Diego fairy shrimp.

Critical Habitat for Listed Wildlife Species

Areas previously designated by the USFWS as critical habitat for coastal California gnatcatcher also occur within the Riverside County region. This species is discussed in Critical Habitat in Section 4.4.7.

4.4.10 EXISTING CONDITIONS FOR SAN DIEGO COUNTY REGION

REGIONAL SETTING

The San Diego region of the project area is within the South Coast region of the California Floristic Province, which extends from the Pacific Coast to the Peninsular Ranges. The physiography of San Diego consists of a series of deep canyons incised by westward flowing streams with intervening mesas. Historically, the region contained extensive areas of grasslands, coastal scrub, chaparral, oak and riparian woodlands. Remaining habitat fragments on steep canyon slopes, undeveloped mesas, or larger riparian drainages support several species of considerable rarity and a high degree of endangerment, e.g., California coastal gnatcatcher and coastal cactus wren in coastal scrub, least Bell's vireo and willow flycatcher in riparian areas, and San Diego fairy shrimp in vernal pools. The majority of the region is urban, however coastal sage scrub or chaparral habitat on steep slopes that are outside typical construction corridors and larger river and drainage crossings that support riparian and marsh vegetation and aquatic habitat could support special status species.

PLANT COMMUNITIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities within the San Diego County region of the project area include agricultural, urban landscaping, chaparral, and oak woodland habitat. Dense Engelmann oak woodland is considered a sensitive plant community by CNDDB and is described below.

Sensitive Plant Communities and Associated Wildlife Habitat

Dense Engelmann Oak Woodland

Dense Engelmann oak woodland is composed of Englemann oaks with a large constituent of coast live oak trees. Canopy cover is usually low with dense stands of trees and an understory of

poison oak or grassland species. This community intergrades with coast live oak woodland and provides similar habitat value as discussed in Section 4.4.2.

Diegan Coastal Sage Scrub

Coastal sage scrub communities are described above in Section 4.4.7. Coastal sage scrub communities in the San Diego area are subject to specific MSCP measures for preservation due to the high number of special status species that occupy this habitat, including California coastal gnatcatcher, cactus wren, orange-throated whiptail, and others.

Southern Cottonwood-Willow Riparian Forest/White Alder Riparian Forest

Southern cottonwood-willow riparian forest and white alder riparian forest communities are dominated by a mixture of trees and shrubs that form dense woody stands along the major river courses (San Diego River, San Mateo Creek, and Rose Canyon). White alder riparian forest tends to form a narrow band of vegetation surrounding streams in steeper canyons. Young, dense stands of willow comprise the shrubby understories of these forests. Mulefat scrub communities also occur within the San Diego County region of the project area. Riparian vegetation provides habitat for numerous species of birds and other wildlife, and essential habitat for the endangered Least Bell's vireo and willow flycatcher.

Southern Coastal Salt Marsh

Southern coastal salt marsh habitat occurs surrounding San Diego Bay, Mission Bay, and some sloughs in the San Diego County region of the project area. These aquatic habitats occur along the fringe of this region and may be located directly within or adjacent to subsequent activities. Southern coastal salt marsh habitat may support various small mammals, and foraging and breeding birds such as the federal and California Endangered light-footed clapper rail. Dry salt flats which occur adjacent to San Diego Bay may provide nesting habitat for western snowy plover (federal Threatened) and California least tern (federal Endangered).

Aquatic Habitat/Freshwater Emergent Wetland

The San Diego River and other smaller perennial creeks and streams within the San Diego County region of the project area provide moderate to high quality aquatic habitat for fish, amphibians, waterfowl and other water-dependent wildlife. Many of the smaller streams that drain hills and canyon slopes into the larger drainages have been reconfigured for flood control management (channel straightening, lining of bed and banks, diversion of flow), which has eliminated the majority of aquatic habitat or reduced it to a very low habitat value. The San Diego River may support common fish species and serve as a seasonal migratory fish passageway but is not likely to support special status species within the project area. The narrow band of emergent marsh vegetation along canals, ditches, and other drainages in the project area provides some nesting and foraging opportunities and cover for water bird species and small mammals, including mallards, green-winged teals, great blue heron, great egret, marsh wren, song sparrow, red-winged blackbird, raccoon, and California vole.

Special Status Plants

A total of 101 special-status plant species were identified with potential to occur in the proposed San Diego County region (see Appendix E). Of these, 27 are listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the San Diego County region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

Critical Habitat for Listed Plant Species

The USFWS has proposed critical habitat for Otay tarplant within the San Diego County region of the project area.

The California Endangered **Otay tarplant** (*Hemizonia conjugens*) occurs in San Diego County and Baja California, Mexico. Open coastal sage scrub and grassland communities, sometimes in mildly disturbed areas, with clay soils provide habitat for this species. Otay tarplant is known from a few sites in San Diego County in the vicinity of San Miguel Mountain, Telegraph Canyon and Otay Mesa. Threats to this species include commercial and residential development and highway construction.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area is described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 69 special status wildlife species were identified in San Diego County (see Appendix E). Of these, 27 are listed Threatened or Endangered species or candidates for listing. Special status species likely to occur in habitats within the San Diego County region were determined based on species potentially occurring in the vicinity of past fiber optic network projects in the region (see references in Section 4.4.1). These species include coastal California gnatcatcher, coastal California cactus wren, least Bell's vireo, southwestern willow flycatcher, southwestern pond turtle, orange-throated whiptail, coastal western whiptail, San Diego horned lizard, and burrowing owl. These are the primary species of concern for subsequent activities in the San Diego County region.

Critical Habitat for Listed Wildlife Species

USFWS-designated critical habitat for the arroyo southwestern toad, Riverside fairy shrimp, tidewater goby, and Quino checkerspot butterfly is located within San Diego County region of the project area. In addition, areas previously designated by the USFWS as critical habitat for coastal California gnatcatcher and San Diego fairy shrimp occur within the San Diego County region.

Arroyo southwestern toad, Riverside fairy shrimp, tidewater goby, and coastal California gnatcatcher are discussed in Critical Habitat in Section 4.4.7.

The ecology of the federal Endangered **Quino checkerspot butterfly** is similar to that of the bay checkerspot butterfly described in Critical Habitat in Section 4.4.4. Host plants for Quino checkerspot butterfly larvae include dwarf plantain (*Plantago erecta*), owl's clover (*Castilleja exserta*), and wooly plantain (*Plantago patagonica*). Grassland, coastal sage scrub, and open chaparral habitats support dwarf plantain. Larvae enter diapause (dormancy) after annual food sources dry up and emerge when rains bring new annual growth. Quino checkerspot butterflies may remain in diapause for several years until suitable resources for growth are available.

4.4.11 EXISTING CONDITIONS FOR IMPERIAL COUNTY REGION

REGIONAL SETTING

The limits of analysis for Imperial County include El Centro, Calexico, Imperial and their immediate surroundings (see **Figure 4.4-15**). These communities are situated in the Imperial Valley, within the Colorado Desert ecological subregion. The valley is a hot, arid, low elevation desert environment. Most of the area has been converted to irrigated agriculture with low density residential and commercial land uses. Biological resources consist mainly of large tracts of cultivated lands that lack natural vegetation and provide minimal habitat value for native wildlife. Natural vegetation in the Imperial County region of the project area, although limited, consists typically of creosote scrub, chenopod scrubs, mesquite and saltbush.

The project area includes a small portion of the New River east of Calexico where it crosses the U.S.–Mexico border, and numerous canals and ditches used for irrigation and drainage of agricultural lands, but with limited habitat value.

PLANT COMMUNTIES AND WILDLIFE HABITATS

Common Plant Communities and Associated Wildlife Habitats

Common plant communities within the Imperial County region of the project area include urban landscaping, agricultural, and annual grassland habitats as discussed above in Section 4.4.2. Annual grasslands in this region generally conform to other Southern California regions as described in this document, with the following exceptions: within the Imperial Valley, there is greater representation of grasses of the arid southwest, such as cheat grass (*Bromus tectorum*), and there is greater representation of perennial shrubs as a result of the interface between grasslands and desert scrub vegetation types.

Sensitive Plant Communities and Associated Wildlife Habitats

Desert Dunes

Desert scrub habitat in the Imperial County region is described in Section 4.4.2. This habitat type also includes desert dunes, a plant community considered sensitive by CNDDB. Desert dune communities form in areas where sand has accumulated in the desert and can support shrub species such as burrobush, buckwheat, saltbush, and herbs such as evening primrose and prairie clover (*Dalea* sp.). Species which inhabit desert dunes and other types of desert scrub habitat include various reptiles such as common kingsnake and desert iguana, and mammals such as kangaroo rats, desert kit fox, coyote and bobcat. The federal and California Threatened desert tortoise, and the flat-tailed horned lizard (California Species of Special Concern) are known from desert dune and scrub habitats.

Riparian Forest, Woodland and Scrub

Riparian habitats within the channel of the New River likely include extensive stands of non-native giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.). Both of these are highly invasive weed species that invade and displace native riparian habitats, resulting in substantially reduced wildlife habitat value. Where the riparian corridor is intact, this river may support a wide diversity of wildlife species as described in Section 4.4.2.

Aquatic Habitat

Aquatic habitat within the Imperial County region consists of the New River and numerous canals and drainages that have been channelized for agricultural or flood control purposes. These drainages may support common fishes and amphibians but are not likely to support special status fish species.

Special-Status Plants

A total of 77 special-status plant species were identified with potential to occur in the Imperial County region (see Appendix E). One of these species is listed as Rare, Threatened or Endangered. These numbers were determined on the basis of documented occurrences of these species or by the presence of habitats that would support these species. Much of the Imperial County region of the project area consists of commercial, industrial and residential developments with no habitat for special status plant species.

WILDLIFE RESOURCES

Common and characteristic wildlife of the habitats in this area is described in the discussion of plant communities and wildlife habitats in Section 4.4.2. The remainder of this section focuses on special status wildlife.

Special-Status Wildlife

A total of 10 special status wildlife species were identified in the Imperial County region of the project area (see Appendix E). Of these, four species are listed as Endangered or Threatened. Special status species with potential to occur in habitats within this region of the project area are similar to those potentially occurring in the Los Angeles Basin region. In addition to these species, the desert tortoise and flat-tailed horned lizard may occur within the Imperial County region.

4.4.12 REGULATORY SETTING

This section briefly describes federal, state and regional regulations, permits, and policies that apply broadly to biological resources and wetlands within the project area. Local ordinances, policies and guidelines (i.e. those set forth in City General Plans) that address biological resources are not discussed in detail in this document. Nonetheless, such local regulations are incorporated into this document by reference and would apply to subsequent activities in the project area and additionally considered in the design of thoseactivities.

U.S. ARMY CORPS OF ENGINEERS AND U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATION OF WATERS OF THE UNITED STATES, INCLUDING WETLANDS

The Corps and Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Proposed activities that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from the Corps. Some classes of fill activities may be authorized under general permits if specific conditions are met.

Utility line construction activities, such as fiber optic cable installation activities, that result in the placement of fill into waters of the United States generally are authorized under Section 404 Nationwide Permit No. 12 (at the discretion of the Corps). Nationwide permits do not authorize activities that are likely to jeopardize the existence of a Threatened or Endangered species (listed or proposed for listing under the federal ESA) or that may affect properties listed or eligible for listing in the National Register of Historic Places (56 FR 59134-59138, November 22, 1991). In addition to conditions outlined under each nationwide permit, project-specific conditions may be required by the Corps as part of the Section 404 permitting process.

The federal government also supports a policy of minimizing “the destruction, loss, or degradation of wetlands.” Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

FEDERAL POLICIES ON RIPARIAN COMMUNITIES IN CALIFORNIA

Riparian communities have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Throughout the United States, riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition. These declines have increased concerns about dependent plant and wildlife species, leading federal agencies to adopt policies to arrest further loss. USFWS mitigation policy identifies California's riparian habitats as belonging to resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 7644, January 23, 1981).

STATE POLICIES AND REGULATIONS ON STREAMS AND WETLANDS

The CDFG regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These activities are regulated under the California Fish and Game Code (Section 1601 for public agencies and Section 1603 for private individuals). Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Requirements may include avoidance or minimization of the use of heavy equipment, limitations on work periods to avoid impacts on wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses. A Streambed Alteration Agreement will be requested from CDFG for all construction activities that have the potential to result in alteration or fill of areas subject to Section 1603.

STATE LANDS COMMISSION

The State Lands Commission (SLC) administers lands under sovereign ownership by the state, which includes the beds of most naturally navigable waterways, such as major rivers, streams and lakes, and tidal and submerged lands below the high tide line. The SLC issues Land Use Leases or Permits for use of state lands that are determined to be consistent with the public trust values for fisheries, navigation, public access, recreation, wildlife habitat and open space.

FEDERAL ENDANGERED SPECIES ACT

The USFWS (jurisdiction over plants, wildlife, and resident fish) and National Marine Fisheries Service (NMFS; jurisdiction over anadromous fish and marine fish and mammals) oversee the federal ESA. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The federal agency is required to consult with the USFWS and NMFS if it determines a "may effect" situation will occur in association with the proposed project. The federal ESA prohibits the "take[9]" of any fish

[9] Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

or wildlife species listed as Threatened or Endangered, including the destruction of habitat that could hinder species recovery.

Section 3 of the Act requires the USFWS or NMFS to designate critical habitat for Threatened or Endangered species. Critical habitat is defined by Section 3 of the Act as habitat that is "essential to the conservation of the species." Section 7 of the Act protects USFWS- and NMFS-designated critical habitat for listed species and prohibits "destruction or adverse modification" of these designated areas. Under Section 9 of the federal ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage or destruction of any Endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an Endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9 of the federal ESA.

Section 10 of the federal ESA requires the issuance of an "incidental take" permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an Endangered or Threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of the project by providing for the overall preservation of the affected species through specific mitigation

STATUTES, CODES AND POLICIES AFFORDING LIMITED PROTECTION TO BIRD SPECIES

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, barn owls, and other birds of prey. Project impacts to these species would not be considered "significant" in this EIR unless they are known or have a high potential to nest on the site or rely on it for primary foraging.

The federal Bald Eagle Protection Act prohibits persons within the United States (or other places subject to U.S. jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting,

exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest or egg thereof."

CALIFORNIA ENDANGERED SPECIES ACT

California implemented its own Endangered Species Act in 1984. The state act prohibits the take of Endangered and Threatened species; however, habitat destruction is not included in the state's definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The CDFG administers the act and authorizes take through Section 2081 agreements (except for designated "fully protected species").

Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing of rare and endangered plants into California, taking of rare and endangered plants, and selling of rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

CALIFORNIA COASTAL COMMISSION

The California Coastal Commission is authorized by the *Coastal Act* to analyze, plan and regulate land and water uses in the coastal zone of California. The *Coastal Act* maintains specific standards for activities involving public access and recreation, commercial fisheries, wildlife and fisheries habitat preservation, industrial uses, power plants, and other land and water use issues. Through administration of the federally approved *Coastal Zone Management Act*, the Commission also regulates activities that affect coastal resources and require a federal permit, license or assistance. The Commission may regulate activities within the San Francisco Bay Area, Los Angeles Basin, Santa Cruz and San Diego County regions of the project area. In addition, Local Coastal Plans (LCPs) may regulate development within the regions of the project area listed above. **Table 4.9-1** in Chapter 4.9 Land Use, Plans and Policy identifies LCPs applicable to the project area.

BAY CONSERVATION AND DEVELOPMENT COMMISSION

The Bay Conservation and Development Commission (BCDC) is authorized by the *McAteer Petris Act* to analyze, plan and regulate San Francisco Bay and its shoreline. It implements the San Francisco Bay Plan, and regulates filling and dredging in the Bay, its sloughs and marshes, certain creek and tributaries. BCDC jurisdiction includes the Bay and a shoreline band that extends inland 100 feet from the high tide line. BCDC permits are required for all work within either the Bay or the shoreline band within the San Francisco Bay Area region of the project area. Areas potentially within BCDC jurisdiction include some creeks, tidal sloughs, salt marshes and shoreline areas throughout this region of the project area.

REGIONAL HABITAT CONSERVATION PLANS

Several multi-species Habitat Conservation Plans (HCPs) are either under development or have been prepared in the general project region. **Table 4.9-2** in Chapter 4.9 Land Use, Plans, and Policies identifies HCPs and Natural Community Conservation Programs in the project area. These planning documents focus on the protection of agricultural lands and wildlife, and riparian enhancement. Regional HCPs, such as these, are administered by imposing a small, per-acre development fee on new projects in undeveloped areas. Concurrently, the HCPs establish one or more habitat reserves that are funded by development. If proposed subsequent activities within existing developed areas and within roads, would avoid waterways by design, and would not otherwise adversely affect biological resources within the scope of any existing or currently proposed HCP, then they likely would be considered exempt or "covered" activities in the context of those HCPs.

NATIVE AND HERITAGE TREE ORDINANCES

Some cities and counties have adopted native or heritage tree ordinances or policies to protect large or native trees. Most ordinances or policies require the project applicant to obtain a tree removal permit and compensate for the removal of protected trees. Removal and indirect impacts on heritage and native trees will be avoided and minimized to the fullest extent possible during construction.

OTHER PROTECTED LANDS

Though the potential is likely low, subsequent activities may be located within lands protected or governed by the United State Forest Service (USFS), the United State Bureau of Land Management (BLM), California Department of Parks and Recreation, the National Park Service (NPS), the United States Army and other regional or local agencies. These lands may include national parks, national forests, regional and state parks, wildlife refuges, marine sanctuaries, and military bases. Construction activities on these lands would be subject to all applicable regulations of these agencies. Several land management agencies and potential regulations are discussed below. A more detailed discussion of specific land management agencies which regulate land within the project area is presented in Section 4.9 Land Use and Planning.

United States Forest Service

The mission of USFS is to achieve quality land management under sustainable multiple-use management. Multiple uses include timber, watershed, recreation, livestock and wildlife habitat. The USFS policy is to ensure that no species becomes threatened or endangered because of USFS actions, and to maintain viable populations of all native species in habitats distributed throughout their geographic range on National Forest lands. Specific actions to manage biological resources are developed on an individual National Forest through the Forest Land Management Plans (Forest Plans).

United States Bureau of Land Management

The BLM implements its responsibilities for biological resource management by carrying out inventory, designation of Areas of Critical Environmental Concern, monitoring, research, protection, and public education. Some lands within the project area, such as desert areas in Southern California regions, may be owned and managed by BLM. BLM field offices which administer BLM lands within Southern California include: Bakersfield (for BLM lands in Ventura County); Ridgecrest (for northern Los Angeles and northwestern San Bernardino Counties); Barstow (for central San Bernardino County); Needles (for eastern San Bernardino County); Palm Springs/South Coast (for southern Los Angeles, southwestern San Bernardino, Orange, and Riverside Counties); and El Centro (for Imperial County).

California Department of Parks and Recreation

Different park designations dictate the extent to which natural resources are a management priority; natural preserves, state parks, state reserves and state wilderness designations indicate that the area has outstanding natural features. By contrast, state historic preserves, state recreation areas, state beaches and state vehicular recreation areas place a higher priority on historic or recreation activities, although they may contain areas designated and protected for their natural features.

National Park Service

The purpose of NPS is to manage the natural resources of the national park system to maintain, rehabilitate, and perpetuate their inherent integrity. NPS manages national parks and wilderness areas, the latter being less accessible, less developed, and often less intensively visited. The natural resource policies of the NPS are aimed at providing the American people with the opportunity to enjoy and benefit from natural environments evolving through natural processes minimally influenced by human actions. Public purposes of wilderness will include recreation, scenic preservation, scientific study, education, conservation, and historical use.

Marine Protection, Research and Sanctuaries Act of 1972

This legislation allowed for the establishment of marine sanctuaries such as the Channel Islands National Marine Sanctuary around the Channel Islands. This Act provides increased protection from a variety of human influences on the marine resources within the sanctuary. Section 103 of this Act regulates the transportation of dredged materials into ocean waters. This Act is implemented through a permit granted by the U.S. Army Corps of Engineers (Corps) which utilizes the EPA’s ocean disposal criteria to regulate the disposal of dredged materials.

4.1.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The analysis of significance of project effects is based on the criteria described in the environmental checklist above. Additionally, the following general criteria were also considered in determining whether an effect on biological resources would be significant and adverse:

- federal or state legal protection of the resource or species,
- federal or state agency regulations and policies,
- local regulations and policies,
- documented resource scarcity and sensitivity both locally and regionally, and
- local and regional distribution and extent of biological resources.

Based on the State CEQA Guidelines and the general criteria identified above, effects on biological resources were considered significant if the proposed project would result in any of the following:

- long-term degradation of a sensitive plant community because of substantial alteration of land form or site conditions (e.g., alteration of wetland hydrology);
- substantial loss of a plant community and associated wildlife habitat;
- fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- substantial disturbance of wildlife resulting from human activities;
- avoidance by fish of biologically important habitat for substantial periods, which may increase mortality or reduce reproductive success;
- disruption of natural wildlife movement corridors;
- substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
  - species qualifying as rare and endangered under CEQA,
  - species that are state-listed or federally listed as threatened or endangered, or
  - portions of local populations that are candidates for state or federal listing and federal and state species of concern;
- substantial reduction or elimination of species diversity or abundance.

IMPACT MECHANISMS

Biological resources could be directly affected by construction activities during fiber optic cable facilities installation, by construction of regenerator / OP-AMP stations, or by ongoing operational and maintenance activities along the fiber optic cable routes.

Direct and indirect disturbance from construction activities could result in the loss or degradation of biological resources from cable system installation (including cable, conduit, and associated facilities) through the following ground-disturbing activities:

- plowing, trenching, or pavement cutting during installation of fiber optic facilities;
- temporary stockpiling of soil or construction materials and side-casting of soil and other construction wastes;
- excavation for bore pits, handholes, manholes and assist points;
- use of designated equipment staging areas;
- soil compaction, dust, and water runoff;
- vehicle traffic and equipment and materials transport along the construction corridor;
- noise disturbance to wildlife species from construction activities; and
- temporary parking of vehicles on the road shoulder outside the construction zone on sites that support sensitive resources (sites not designated as equipment staging areas).

The following analysis identifies subsequent activities tiered off of this Program EIR that may result in significant adverse impacts to biological resources, and identifies classes of biological resources that could be the receptors of such impacts. The impacts are based entirely on the range of activities covered under the Project Description, and the scale and intensity of the anticipated or potential impacts are based on prior experience with construction of fiber optic facilities. Potential receptors (*i.e.*, species or habitats) have been identified for the entire project area. However, the degree to which species or habitats may be affected by subsequent activities will be determined after selection of actual routes and implementation methods in subsequent documents to this Program EIR. For this reason, the impact analysis addresses biological resources taxonomically (i.e. in groupings of similar organisms or habitats) on the presumption that such groups may respond to impacts in similar ways.

The mitigation measures are organized in this way as well. At the programmatic level of this analysis, the mitigation measures are intended to establish criteria and protocols for the eventual crafting and refinement of measures to avoid or reduce specific impacts identified through analysis of subsequent activities that will tier off this Program EIR. The eventual impact-specific mitigations shall, at a minimum, include the components described in this document.

The mitigation measures described for potential adverse effects to special-status species have not been developed through formal consultation or coordination with resource agencies (e.g., CDFG and USFWS). The mitigation measures may be modified during coordination with the resource agencies for subsequent activities. Additional mitigation measures that may be identified as part of the permit review process (e.g., Section 404, 1603 streambed alteration agreement, or biological opinion, if needed) would be implemented as part of the project and monitored during construction to ensure compliance.

The term "qualified wildlife biologist" as used below indicates a person with at least an undergraduate degree in wildlife or a related field, and either professionally certified as a Wildlife Biologist (C.W.B.) by The Wildlife Society, or working under the direct supervision of a C.W.B.

The term "qualified botanist" as used below indicates a person with at least an undergraduate degree in botany, plant ecology or a related field, and with a minimum of three years professional field experience within the region or working under the direct supervision of a professional botanist with at least six years field experience in the region.

IMPACT ASSESSMENT

GENERAL IMPACTS ASSOCIATED WITH CONSTRUCTION OR MAINTENANCE WITHIN OR ADJACENT TO UNDEVELOPED AREAS

Impact BIO-1: Installation and maintenance of cable and supporting equipment and other facilities within or adjacent to undeveloped areas could result in adverse impacts to biological resources in the absence of route surveys to identify specific locations of biological resources within the project area. (Potentially Significant)

The extent to which biological resources may impacted by subsequent activities will be determined when work plans, including construction installation methods, are submitted to the CPUC for a permit to construct. The following general mitigation measures will apply to all subsequent activities to this Program EIR within or adjacent to undeveloped areas to prevent significant impacts to biological resources.

Mitigation Measure BIO-1a: Sempra Communications shall retain a qualified biologist to evaluate specific location descriptions, including, as necessary, field assessments of each work plan, and documentation of the findings of this assessment. This evaluation will include a discussion of biological resources with moderate to high potential to be affected by the proposed action, and a brief justification for those not considered further (i.e. those species for which no habitat occurs in the proposed project area or sensitive habitat types not present within the project area). The assessment shall also include a search of most recent CNDDB records for the U.S. Geological Survey (USGS) quads within which the work plan occurs.

If Sempra Communications determines that biological resources are not constraints to specific activities, the consultant will prepare a justification for why further biological studies (biological resource surveys or monitoring) are not necessary. Documentation shall be provided to CPUC for review, resulting in either concurrence with the findings implicit in issuance of a permit to construct, or a request for further information or clarification.

If Sempra Communications determines that biological resources present constraints to construction, then Sempra Communications will prepare an action plan for monitoring and

documentation of observations and submittal of monitoring progress reports to CPUC. Monitors[10] shall be hired and trained prior to construction and shall be responsible for pre-construction surveys, staking of resources in the field prior to construction, onsite monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, worker environmental education (as necessary; see Mitigation Measure BIO-1b).) and post-construction documentation.

Mitigation Measure BIO-1b: Sempra Communications shall retain qualified biologists to conduct an environmental education program for construction crews and their supervisors before construction activities begin (including site preparation and staging of equipment and materials), and shall enforce construction restrictions described elsewhere in this section prior to construction.

Prior to construction, biological monitors shall hand out written materials describing sensitive resources, resource avoidance, permit conditions, and fines. The crew foreman would be responsible for ensuring that crew members adhere to the guidelines and restrictions. Multiple environmental education programs would be conducted as needed, including morning "tailgate" sessions, to update crews as they advance into sensitive areas, and to educate new personnel brought on the job during the construction period.

Mitigation Measure BIO-1c: In the majority of circumstances, trenching installation methods are expected to occur in existing public rights of way within urbanized areas. In some circumstances, trenching could occur in roadways immediately adjacent to habitat potentially occupied by special status species. Only rarely might trenching installation occur on land that is undeveloped. In these latter two circumstances, the following measures shall be applied to avoid or minimize impacts of noise and activity associated with trenching installation on special status species:

- All trenching shall be backfilled as soon as possible to prevent entrapment of animals. Any trench left overnight shall be covered or adequately fenced.

- Trenches shall be inspected in the morning if the trench is inadvertently left open overnight, or if covering is incomplete. Alternatively, escape ramps may be used if approved by the biological monitor.

- Only biological monitors may remove animals from trenches or from the work areas. Only biological monitors with specific permits from resource agencies may move listed specials status species.

- Trenching spoils shall be placed within future disturbed areas or within the ROW.

[10] Monitors also shall have, at a minimum, a Bachelor's degree in natural resources or a minimum of three years experience monitoring construction projects with biological resource issues. As used in this document, "monitors" refers to individuals responsible for monitoring biological or other natural resources.

- Topsoil shall be stockpiled separately from other excavated soils. Ensure that backfilling occurs in the reverse order of excavation.

- Revegetation, where required as a site-specific mitigation measure, shall be accomplished through replacement of topsoil and native species, and erosion control measures must be in place prior to the first rain in the fall, or by October 15, whichever is earlier. Exceptions to this cut-off date may be applied for on a case by case basis.

Mitigation Measure BIO-1d: Minimum standards to reduce or avoid impacts from aerial installation:

- Avoid use of helicopters for OPGW cable installation during the breeding season of birds and bats or in areas that support species sensitive to noise (e.g. certain nesting raptors).

- To the extent possible, previously disturbed sites within the project area and existing access roads shall be used by vehicles assisting helicopters in aerial installation. Storage of equipment, location of office trailers, parking of vehicles, and any other surface-disturbing activity shall take place within these previously disturbed areas. Parking and vehicle storage areas shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle off-road travel.

Mitigation Measure BIO-1e: The following general construction guidelines will be implemented to reduce or avoid impacts to biological resources:

- Except on paved or federal, state or county-maintained roads, vehicles shall not exceed 20 miles per hour.

- No firearms are allowed on site except as required by bonded security personnel.

- No pets are allowed on site.

- All food items shall be contained and removed from the site daily to prevent attracting wildlife to the site.

- Prior to construction in areas with natural and/or undisturbed habitat (or other area defined by biologist), each access route and construction area shall be clearly flagged, signed or staked, limiting construction activities to the areas designated on the pre-construction plan.

- If flags or staking are required to demarcate/delineate natural or undisturbed habitat, then construction activities shall be restricted to the Right-of Way (ROW), or the future site of associated facility, with work area boundaries delineated with flagging or other marking to minimize surface disturbance.

- The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other

limiting factors. To the extent possible, previously disturbed sites within the project area shall be used for the stockpiling of excavated material, storage of equipment, digging of slurry and burrow pits, location of office trailers, parking of vehicles, and any other surface-disturbing activity. Work area boundaries, including parking and vehicle storage, shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle off-road travel.

- Erosion control measures (e.g., netting or staking) shall be placed along new roadways that are construction are being utilized for the construction activity if within sensitive plant areas and road outslopes exceed 20%.

- When working near or above streams (<100 feet), do not move earth within 24 hours of a predicted storm.

Significance After Mitigation: Less than Significant.

IMPACTS WITH POTENTIAL TO ADVERSELY AFFECT SPECIAL STATUS SPECIES OR THEIR HABITAT

Impact BIO-2: Installation of cable and supporting equipment and other facilities within or adjacent to stream crossings, riparian habitats, and wetlands could result in permanent or temporary adverse effects to special status wildlife species associated with these aquatic and riparian habitats. (Potentially Significant)

Construction activities within or adjacent to aquatic, riparian and wetland habitats have the potential to adversely impact special status wildlife species through temporary removal of vegetation, alteration of hydrologic regime, accidental direct mortality from mechanical equipment, entrapment in open trenches, and harassment due to noise or vibration. Accidental release of deleterious fluids, such as bentonite clay used during boring, may result in mortality of individuals or destruction of breeding habitat for amphibians and fish. Removal of riparian vegetation eliminates foraging and nesting habitat, disrupts essential migratory corridors, and results in higher water temperatures that may be inhospitable to native fish. The hydrology and soil profile of vernal pools or other seasonal wetlands that may support special status wildlife species (such as fairy shrimp) may be disturbed or altered by construction activity, including excavation, trenching and heavy equipment traffic. Special status species may occur within aquatic habitats in the project area are listed in Appendix E.

Installation of fiber optic cable facilities could result in the disturbance of special-status wildlife species located in and adjacent to subsequent activities in aquatic, riparian and wetland habitats, potentially reducing local populations and reducing habitat for these species. Effects to these species would be avoided or minimized by incorporation of the standards discussed in Mitigation Measures BIO.1a-e, and construction mitigation strategies that consider the life history and specific needs of each species. The biological report prepared as directed in Mitigation Measure

BIO.1a will identify potential aquatic habitat for special status invertebrates, fish, amphibians, and reptiles in the project area.

Mitigation Measure BIO-2a: Wherever feasible, avoid riparian and wetland habitats that support special-status aquatic species by establishing, maintaining, and observing exclusion zones. If avoidance of riparian and wetland habitats is possible through directional bore or jack-and-bore methods, the following measures would apply:

- If an amphibian/reptile exclusion fence is required to prevent migration of listed amphibians or reptiles into the construction area, the fence shall be constructed under the direction of a qualified biologist. The fence shall be constructed of 4x8-foot or 4x10-foot plywood sheets and be located to avoid all burrows. It shall extend three feet six inches above the ground and six inches below ground. The fence shall be supported sufficiently to maintain its integrity, and maintained in good condition for the duration of ground-disturbing activities, including site restoration or revegetation following construction. The biological monitor will indicate when fences may be removed.

- A biological monitor shall visit each wetland or stream boring site at least once daily during construction, with continuous monitoring at streams that support fisheries habitat or provide habitat for special status species. The monitor will check exclusion fencing to ensure that it is intact. The biological monitor shall ensure that all provisions of the state and/or federal wetlands permits are followed and that an adequate setback of at least 20 feet is observed at wetland and/or riparian (woody vegetation) edges that provide suitable habitat for sensitive species. This setback distance is considered an initial guideline which may be modified at specific sites following informal consultation with federal and state resource agencies, and as new information becomes available regarding wildlife habitat use. In addition, because a resource specialist will inspect all stream crossings prior to construction, additional sites that were not initially identified as potential habitat may be identified as special status species habitat at a later time.

- In the event that equipment is required to operate in any watercourse with flowing or standing water for any reason (for example, cleanup of an accidental bentonite clay spill), a biological resource monitor shall be present at all times to alert construction crews to the possible presence of sensitive species at risk during boring operations. If any harm or harassment to occupied aquatic habitat could occur, the monitor shall immediately and directly notify the construction supervisor to halt the activity and the construction technique modified to eliminate any chance of harm to the species. In the case of an accidental substance release into one of these streams, resource agencies shall be contacted immediately.

- To avoid affecting habitat that may support sensitive aquatic species, impacts on woody riparian vegetation may be avoided by boring underneath drainages that support this habitat type. A minimum 20-foot-wide setback shall be established and staked by a resource specialist before construction activities. This buffer shall extend between the edge of the

woody riparian vegetation and construction exclusion fencing. Equipment shall be located beyond this point.

- Woody riparian vegetation close within the vicinity of subsequent activities that could be indirectly or inadvertently affected by construction operations shall be protected by installation of temporary fencing or staking and flagging of a minimum 20-foot-wide setback. Depending on site-specific conditions, this buffer may be narrower than 20 feet (e.g., in the case of a concrete-lined ditch) or wider than 20 feet (where special status species may be present), as determined by a qualified biologist. At locations where equipment access (e.g., bore entrance and exit pits) is located entirely within roads and no sensitive resources are present, no stream setback distances may be required. Identification and protection of woody riparian vegetation close to the work zone shall include either flagging or fencing, depending on site-specific conditions. The resource monitor shall confirm that protective measures are in place at specific work locations before construction activities begin at each crossing site. Protective fencing shall remain in place until all construction activities in the area are complete. No woody vegetation greater than one inch in diameter shall be removed from stream corridors without permission from CDFG (see Mitigation Measure BIO-11a).

- Confine construction equipment and associated activities to the designated construction areas in areas that support sensitive resources. In areas that support sensitive biological resources (e.g., areas that support riparian and wetland communities and special-status species), the area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, public health and safety, and other limiting factors. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying and minimize the potential for inadvertent worker intrusion into sensitive areas. Special habitat features identified by the resource monitor shall be avoided to the extent possible and previously disturbed areas within the work site shall be utilized for stockpiling excavated materials, equipment storage, and vehicle parking. During the worker environmental education program, construction personnel shall be informed of the importance of maintaining a narrow work corridor. The resource monitors shall ensure that construction equipment and associated activities avoid any disturbance of sensitive resources outside the construction corridor.

- If construction is proposed in upland areas adjacent to potential breeding habitat for listed species or candidate species for listing, a qualified wildlife biologist will conduct pre-construction surveys of these areas for aestivation habitat for these species. If feasible within the context of the work area, aestivation areas would be temporarily fenced and avoided. At locations where aestivation burrows are identified and cannot be avoided, aestivation burrows of non-listed species (*i.e.*, California tiger salamander) would be excavated between May and October by hand prior to construction and individual animals moved to natural burrows or artificial burrows constructed of PVC pipe within 0.25 miles of the construction site.

Mitigation Measure BIO-2b: If avoidance of aquatic or riparian habitats with the potential to support non-listed special-status aquatic species is not feasible, the following would apply:

- Construction activities will occur between March and October when water flow is absent or at its lowest level unless otherwise negotiated with responsible agencies.

- Prior to construction, a qualified biological monitor will survey the construction area, including aquatic habitat and adjacent upland habitat, for special-status species.

- If non-listed special-status species are identified within the construction area, the biological monitors will temporarily relocate individuals upstream of the construction site, and temporary barriers will be placed around the construction site to prevent ingress.

Mitigation Measure BIO-2c: If avoidance of aquatic or riparian habitats with the potential to support listed aquatic species is not feasible, a plan to avoid or reduce adverse impacts to these species will be developed through informal consultation with CDFG, USFWS, and NMFS, depending on the species potentially present at the site. If a Programmatic Biological Opinion (PBO) has been developed for specific listed species potentially present at the site (i.e. California red-legged frog, giant garter snake, vernal pool fairy shrimp), measures from this PBO such as seasonal restrictions, pre-construction surveys, worker environmental education sessions, biological monitoring, and revegetation programs will be included in the plan.

Significance After Mitigation: Less than significant.

Impact BIO-3: Construction that occurs within or adjacent to habitat that supports nesting birds or breeding bats may disrupt breeding behavior and cause nest/roost abandonment and loss of young. (Potentially Significant)

Installation of fiber optic cable facilities may involve the removal of bat roosts and nesting habitat for listed birds, raptors, and other birds protected by the Federal Migratory Bird Treaty Act, Federal Bald Eagle Protection Act, and CDFG Code Section 3503.5. The biological report prepared as directed in Mitigation Measure BIO-1a will identify potential nesting/roosting habitat for special status birds and bats in the project area. If nest/roost removal occurs during the breeding season, direct mortality to these species and their young may occur. In addition, human disturbances from construction activities and noise from aerial installation using helicopters could cause nest/roost abandonment and death of young or loss of reproductive potential at active nests/roosts located near the project construction areas.

Mitigation Measure BIO-3a: If construction activities are scheduled during the non-breeding season (generally September through January, but this is subject to case-by-case consideration of the breeding activity) within or adjacent to habitats that may support protected nesting bird or roosting bat species, mitigation is only required for certain species for which CDFG or USFWS has established non-breeding season protocols (i.e. burrowing owl). Measures such as avoidance and passive relocation of species, which are included in these protocols, will be required for construction activities within or adjacent to suitable habitat.

Mitigation Measure BIO-3b: If construction activities are scheduled during the breeding season (generally February through August, but this is subject to case-by-case consideration of the breeding activity), a no-disturbance buffer zone would be established around active nests/roosts to avoid potential adverse effects on protected nesting birds and breeding bats. Helicopters would not be used to install fiber optic facilities during the breeding season in areas which may support breeding birds or bats.

If construction activities are scheduled to occur during the breeding season, a qualified wildlife biologist will conduct pre-construction surveys of all potential nesting habitat within 500 feet of project construction areas to identify nest/roost sites. If active nests/roosts are identified during these preconstruction surveys, a no-disturbance buffer would be created around the active nest/roost. If surveys indicate that nests/roosts are inactive or potential habitat is unoccupied during the construction period, no further mitigation would be required. The size of individual buffers would be determined based on an evaluation of the site by a qualified biologist. The evaluation would be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest/roost or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., farming activities or road traffic) and the observed sensitivity of the birds or bats. Site evaluations and buffer adjustments would be done in consultation with the local CDFG representative or according to CDFG protocols for specific species (i.e. burrowing owl). Designated buffer areas would be identified in the field by staking and flagging. Buffer areas would remain in place until the end of the breeding season or until it is determined that young have fledged.

Significance After Mitigation: Less than significant.

Impact BIO-4 Construction that occurs within or adjacent to habitat that supports special status burrowing mammals may result in adverse impacts to these species. (Potentially Significant)

Special status burrowing mammals (e.g. certain species of kangaroo rats, San Joaquin antelope squirrel, and others) may be present within or adjacent to construction areas associated with subsequent activities of this project. The biological report prepared as directed in Mitigation Measure BIO-1a will identify potential habitat for special status burrowing mammals in the project area. Potential impacts to these species include noise disturbance, disruption of reproductive behavior, den destruction and direct mortality of these species.

Mitigation Measure BIO-4a: Pre-construction surveys of work areas within or adjacent to undeveloped areas determined to be potential habitat shall be conducted by qualified wildlife biologists trained to recognize burrows and dens of particular mammals, as well as tracks, scat and other diagnostic sign. A habitat assessment of the site shall be conducted by a qualified biologist to determine whether special-status mammal habitat, including burrows or dens, exists within proximity of the work area, and if so, whether the proximity, type of activity, and distance from the work could result in abandonment of the burrows or dens, depending on the species.

Mitigation Measures BIO-4b: If potential habitat for special-status burrowing mammals (burrows, scat, tracks, or other diagnostic sign) is located within 0.5 miles of construction areas but greater than 200 feet from proposed activities, the following measures shall apply:

- Exclusion fencing shall be constructed and maintained in good condition around construction areas. The temporary fence shall be constructed with typical silt fencing, and shall be substantial enough to deter animals from entering the work area and to prevent parking construction vehicles or staging or storage of construction materials on adjacent habitat. The location of the fence shall be determined by the biological monitor.

- All open trenches shall be covered and secured at the end of each work day. If trenches remain excavated overnight, temporary escape ramps shall be installed with a 2:1 slope or less or trenches shall be covered by steel plate or plywood. All excavated trenches shall be checked in the morning prior to construction to ensure that no wildlife species are inadvertently trapped.

- A biological monitor shall inspect the fences and trenches at a minimum of once a day. Any wildlife trapped in the trenches shall be moved outside the construction area. If listed species are trapped in trenches, they can only be moved by biologists with appropriate permit or approval from USFWS or CDFG.

- If construction areas are located in paved roads or other highly disturbed ROW, exclusion fencing shall only be constructed around the construction area when adjacent potential habitat for special-status burrowing mammals is within five feet of the work area.

Mitigation Measure BIO-4c: If potential habitat for special-status burrowing mammals (burrows, scat, tracks, or other diagnostic sign) is identified within 200 feet of construction areas; tracking, night photography, or trapping surveys of all potential habitat will be conducted to determine presence or absence of special-status mammals. Survey methods will be consistent with USFWS and CDFG protocols and other agency guidelines, such as the USFWS *Standardized Recommendations for Protection of the San Joaquin Kit Fox* (USFWS, 1997).

Mitigation Measure BIO-4d: If surveys identify special-status mammals within proposed construction areas, consultation with CDFG and USFWS will determine further measures for avoiding or reducing adverse impacts to these species. Measures will likely include seasonal restrictions, pre-construction surveys, worker environmental education sessions, biological monitoring, and revegetation programs.

Significance After Mitigation: Less than significant.

Impact BIO-5: Construction that occurs within or adjacent to upland habitat that supports special status reptiles may result in adverse impacts to these species. (Potentially Significant)

Construction activities may remove potential upland habitat for special-status reptiles (e.g. blunt-nosed leopard lizard) and result in accidental mortality of these species. The biological report prepared as directed in Mitigation Measure BIO.1a will identify potential habitat for special status reptiles in the project area. Reptiles could inadvertently be killed by construction vehicles and could be trapped in open trenches.

Mitigation Measure BIO-5a: If it is not feasible for construction activities to avoid potential upland habitat for non-listed special-status reptiles, the following measures will exclude transient reptiles from the construction area:

- Exclusion fencing shall be constructed and maintained in good condition between construction areas and potential habitat for special status reptiles. The temporary fence shall be constructed with typical silt fencing, and shall be substantial enough to deter animals from entering the work area and to prevent parking construction vehicles or staging or storage of construction materials on road shoulders adjacent to habitat. The location of the fence shall be determined by the biological monitor.

- All open trenches shall be covered and secured at the end of each work day. If trenches remain excavated overnight, temporary escape ramps shall be installed with a 2:1 slope or less or trenches shall be covered by steel plate or plywood. All excavated trenches shall be checked in the morning prior to construction to ensure that no wildlife species are inadvertently trapped.

- A biological monitor shall inspect the fences and trenches at a minimum of once a day. Any reptiles trapped in the trenches shall be moved outside the construction area.

Mitigation Measure BIO-5b: If it is not feasible for construction activities to avoid potential upland habitat for special-status reptiles (or State Fully Protected reptiles), transect or trapping surveys for these species and other measures for avoiding or reducing adverse impacts to these species will be developed through consultation with CDFG and USFWS.

Measures approved through consultation will likely include:

- seasonal restrictions
- pre-construction surveys
- worker environmental education sessions,
- biological monitoring, and
- revegetation programs.

Significance After Mitigation: Less than significant.

Impact BIO-6: Construction that occurs within or adjacent to habitat that supports special status invertebrates may disrupt these species at vulnerable stages of their life cycle, or may

eliminate host plants that are essential for completion of their life cycle. (Potentially Significant)

Elderberry shrubs, which represent habitat for the valley elderberry longhorn beetle, and other plant species which support listed butterflies or moths may be present within the project area. The biological report prepared as directed in Mitigation Measure BIO.1a will identify potential habitat for special status invertebrates in the project area. Destruction of these plants by construction equipment or vehicles may result in direct mortality of the larvae of these species and may remove host plants which are essential to the life cycle of these invertebrates.

Mitigation Measure BIO-6a: Prior to construction activities within or adjacent to potential habitat for special status invertebrate, a qualified wildlife biologist will conduct a survey for host plants occurring within 100 feet of proposed construction activities.

Mitigation Measure BIO-6b: Wherever feasible, fence off and avoid removal of plants which may support special-status invertebrates during any stage of their life cycle.

Temporary fencing shall be installed a minimum of 20 feet outside the dripline of shrubs and 50 feet from host plants occurring within 100 feet of construction areas. No encroachment into the fenced areas will be permitted. The fencing shall remain in place until all subsequent construction activities in the vicinity have been competed. Clearly visible signs shall be erected every 50 feet along the edge of avoidance areas.

Mitigation Measure BIO-6c: If avoidance of host plants is not feasible, a plan to avoid or reduce adverse impacts to sensitive invertebrate species will be developed through informal consultation with CDFG and USFWS. If a PBO has been developed for specific listed species potentially present at the site (*i.e.*, valley elderberry longhorn beetle), measures from this PBO such as seasonal restrictions, pre-construction surveys, worker environmental education sessions, biological monitoring, and revegetation programs will be included in the plan. If a survey protocol has been developed for specific listed species potentially present at the site (*i.e.* Quino checkerspot butterfly), this survey protocol will be carried out where applicable.

Significance After Mitigation: Less than significant.

Impact BIO-7: Construction activities have the potential to disturb or result in the mortality of special-status plant species. (Potentially Significant)

Construction areas which are located outside of roads and other developed areas may support special-status plant species. Construction activities may result in the disturbance or mortality of these species. The biological report prepared as directed in Mitigation Measure BIO.1a will identify potential aquatic habitat for special status plants in the project area.

Mitigation Measure BIO-7a: A qualified botanist shall conduct focused surveys for special-status plants during the period of identification for those species potentially occurring within undeveloped areas proposed for construction.

Surveys for special status plants shall comply with guidelines published by the California Department of Fish and Game (CDFG 2000). At a minimum, these guidelines recommend:

- appropriately-timed surveys prior to construction conducted by qualified botanists familiar with plants of the area;
- documentation of all plant species in the surveyed area to the extent necessary to determine whether special status species area present; and,
- preparation of a detailed report of site conditions, plant communities and associated species, including photographic documentation of any special status species and maps of their location.

Mitigation Measure BIO-7b: If special status plants are identified within 100 feet of proposed construction activities and these plants can be avoided by construction, the following protective measures would be implemented:

- Exclusion fencing shall be constructed and maintained between the plants and the construction area to create an effective buffer against all construction-related activity.
- A qualified botanist shall hold tailgate environmental education sessions with construction personnel to inform them of special status plant species in the project area. These training sessions shall also include the locations of these sensitive resources, resource avoidance, permit conditions, and possible fines for violations of state or federal environmental laws.

Mitigation Measures BIO-7c: If special status plants are identified within proposed construction areas and avoidance of these areas is infeasible, the following measures would apply:

- CDFG and USFWS, as applicable, shall be consulted to develop an acceptable plan for transplant, salvage, cultivation, or re-establishment of the species at suitable sites. In some cases involving State-listed plants, it may be necessary to obtain an incidental take permit under Section 2081 of the Fish and Game Code. The level of commitment may vary depending on the sensitivity of the species (its rarity or endangerment status), its prevalence in the area, and the current state of knowledge about overall population trends and threats to its survival.
- A detailed monitoring and reporting plan also will be a required component of any acceptable plan. Local jurisdictions (such as city or county parks or open space management, public works, or maintenance departments) may also need to coordinate to ensure that any new population locations are protected.

- For special status plants, topsoil would be salvaged and stored prior to construction, then re-spread following construction and implementation of other appropriate site restoration measures (such as final grading, soil scarification, and erosion control). In those situations where post-construction monitoring indicates topsoil respreading has not resulted in successful re-establishment of special status plants, then seeds or cuttings of the species shall be gathered from nearby populations, and shall be used to in a cultivation and planting program that is appropriate for the horticultural requirements of the species. Re-introduction of the plant would be accomplished through sowing of seeds or planting of cultivated plants in the construction area or in another suitable location for which long-term site protection can be ensured. The restored area shall be comparable in size, soil type, exposure, dominant vegetation, and other critical habitat elements to the source population. Control of exotic weeds shall be implemented to prevent degradation of the habitat for native species. All components of the revegetation plan shall be subject to approval of CDFG or USFWS.

Mitigation Measure BIO-7d: If special status plants are identified greater than 100 feet from proposed construction activities, including access routes, then standard avoidance measures shall be implemented prior to construction.

Avoidance measures include:

- staking and flagging of the plant or population to prevent accidental damage;
- staking or flagging of work area limits and access routes in proximity to the plant or population, at the direction of biological resource monitors;
- A qualified botanist shall hold tailgate meetings with construction personnel to inform them of special status plant species in the project area. These environmental education sessions shall also include showing crews the plant(s), measures to avoid it, applicable regulatory constraints and permit conditions, and possible fines for violations of state or federal environmental laws.

Significance After Mitigation: Less than significant.

Impact BIO-8: Increased sediment and pollutant loads from site development in surface runoff and stormwater could decrease habitat quality for special-status fish species in drainages and other water bodies downstream from construction areas. (Potentially Significant)

Potential impacts include increased sediment and pollutant loads in surface runoff downstream from the work site during and following grading and other construction activities. By volume, sediment is the principal pollutant component in most storm runoff and would be the primary pollutant expected from the proposed project. Sediments also transport substances such as nutrients, hydrocarbons, pesticides, and trace metals, which are conveyed to receiving waters.

Construction operations would temporarily expose soil surfaces and/or stockpiled soil to wind and water erosion, causing sedimentation that could impact water quality in downstream areas. Most of the water quality impacts would be temporary, construction-related effects. Hazardous materials associated with the proposed project would be limited to those substances typically associated with construction equipment, such as gasoline and diesel fuels, engine oil and hydraulic fluids.

With implementation of Best Management Practices (BMPs) prepared for the project Storm Water Pollution prevention Plan (SWPPP), outlined in Section 4.8, Hydrology and Water Quality, and below, construction impacts to water quality would not be expected to degrade water quality in drainages within the project area, or adversely impact special status fish species.

Mitigation Measure BIO-8a: Sempra Communications shall prepare and implement a SWPPP for the project as required by the appropriate Regional Water Quality Control Board (RWQCB) under its NPDES general permit. The SWPPP shall be updated as needed to reflect changes in the project design and site conditions. Development of the SWPPP is considered further in Section 4.8, Hydrology and Water Quality.

Terms of the SWPPP would include, but are not necessarily limited to, the mitigation measures listed below.

- Berming shall be done in the project area with sediment catchment basins in depressions and stormwater collection areas in the construction zone, using hay bales or other structures suitable to prevent sediment from being transported and deposited outside of the construction zone. Catchment basins and berms shall be incorporated into the final project design.

- Physical site modification or discharges affecting known or suspected habitat for species protected under the federal or state Endangered Species Acts shall be avoided, and if required, undertaken only under the guidance and approval of the USFWS, CDFG, or NMFS, as appropriate.

- The SWPPP will outline interim and permanent stabilization practices, including a schedule for implementation, to ensure that disturbed portions of the project site are stabilized as quickly as practicable.

- The use of sediment control basins, sediment traps, silt fences, vegetative buffer strips, or equivalent control measures shall be taken to reduce sediment and pollution loads into sensitive riparian and wetland habitats.

Significance After Mitigation: Less than significant.

Impact BIO-9: Construction activities may result in the destruction or adverse modification of areas designated by USFWS and NMFS as critical habitat for listed plant and wildlife species. (Potentially Significant)

Though construction is not likely to frequently occur within critical habitat areas, the project area includes critical habitat designated by USFWS and NMFS for listed plants and wildlife species (see regional discussions above for critical habitat located within each project area region). Construction activities within or adjacent to these areas may temporarily remove critical habitat or reduce the quality of these areas and habitat value to listed species. The biological report prepared as directed in Mitigation Measure BIO.1a will identify construction activities which are proposed within or adjacent to USFWS and NMFS-designated critical habitat in the project area.

Mitigation Measure BIO-9a: Wherever feasible, subsequent activities will be designed to avoid construction activities within or adjacent to critical habitat as designated by USFWS and NMFS. If avoidance is not feasible, informal consultation with USFWS and CDFG will determine a mitigation strategy to ensure that construction activities do not result in the destruction and adverse modification of the value of the habitat or affect the survival and recovery of any listed plant and wildlife species. Measures are likely to include seasonal restrictions, reduced construction corridors, pre-construction surveys, worker environmental education sessions, biological monitoring, and re-vegetation programs.

Significance after Mitigation: Less than significant.

IMPACTS WITH POTENTIAL TO ADVERSELY AFFECT RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITIES

Impact BIO-10: Construction activities have the potential to adversely affect sensitive natural communities, including but not limited to perennial and alkali grasslands, coastal scrub, riparian forest, riparian woodland, riparian scrub, freshwater marsh (freshwater emergent marsh), saltmarsh (saline emergent wetland), and seasonal wetlands including vernal pools. (Potentially Significant)

Trenching activities have the potential to result in temporary or permanent removal or disturbance of sensitive natural communities within upland areas. The biological report prepared for each subsequent action as directed in Mitigation Measure BIO-1a will identify all sensitive natural communities in the project area.

Mitigation Measure BIO-10a: Removal of sensitive natural communities will be avoided wherever feasible. If avoidance of this habitat is not feasible, only the minimum area necessary to complete the work will be subject to disturbance. Consultation with USFWS, CDFG, and other agencies, as applicable, will determine appropriate compensatory mitigation including habitat restoration, revegetation, conservation easements, and habitat replacement ratios both on-site and off-site.

A mitigation plan will be prepared to describe in detail the measures to be implemented to compensate the loss of sensitive natural communities as a result of any subsequent action. The plan will be a detailed outline of the steps to be undertaken toward replacement of the habitat, and will include, at a minimum; the following elements:

- documentation of the type, size and location of the affected area;
- discussion of the regional sensitivity of the natural community;
- goals and objectives of the mitigation effort, including the type, size and location of the restored or enhanced natural community;
- identification and, if applicable, acquisition of suitable sites or establishment of conservation easements for those sites;
- procurement of appropriate plant materials, including a consideration of the use of local genetic stock;
- planting plans showing the location, quantity and of container size of each species to be planted, and the timing and methods of installation;
- site preparation requirements, including grading and auguring;
- methods to maximize survival of plantings, including plant protection (*i.e.*, tree tubes or cages), mulch, and fertilizer;
- irrigation plans, including water source, methods of delivery to each plant, timing and rate of application, criteria for removal of irrigation;
- site protection to prevent damage of the restored or enhanced area from vehicles, people, livestock;
- establishment monitoring to be conducted for the first year following planting, when plants are most vulnerable to drought stress, disease, damage from grazing or browsing, vandalism, etc.
- maintenance activities and schedule to ensure continued functioning of the irrigation system and removal of weeds
- identification of the people to be contacted for questions regarding the implementation of the mitigation plan, who also will be responsible for submittal of annual monitoring reports.

Significance After Mitigation: Less than significant.

IMPACTS WITH POTENTIAL TO ADVERSELY AFFECT FEDERALLY PROTECTED WETLANDS AS DEFINED BY SECTION 404 OF THE CLEAN WATER ACT OR WATERS OF STATE AS DEFINED BY SECTION 1600 OF THE CALIFORNIA FISH AND GAME CODE

Impact BIO-11: Construction activities could potentially result in direct impacts to waters of the United States or waters of the state, including wetlands. (Potentially Significant)

Installation of fiber optic cable facilities may include trenching and boring activities through or under seasonal wetlands, seasonal streams, and other drainages in the project area. These activities may result in temporary impacts or placement of dredged or fill material into water bodies which are under the jurisdiction of the Corps. The biological report prepared as directed in Mitigation Measure BIO.1a will identify potential jurisdictional waters of the United States in the project area.

Mitigation Measure BIO-11a: If construction activities will result in the placement of dredged or fill material into waters of the U.S. or waters of the State , the following measures will apply:

- A formal delineation of jurisdictional features shall be conducted by a qualified biologist. The delineation shall be submitted to the Corps for verification and a Department of the Army permit shall be obtained. In addition, Water Quality Certification shall be obtained from the RWQCB.
- If necessary, a Streambed Alteration Agreement shall be obtained from CDFG.
- Construction operations shall be conducted during the dry season to minimize erosion.
- The top layer of the drainage or wetland bottom shall be stockpiled and preserved during construction. After the pipeline has been installed, the stockpiled material shall be placed back into the drainage or wetland feature to return the beds to their original composition.
- Crossings shall be oriented as close to perpendicular (90 degree angle) to the drainage or seasonal wetland as feasible.
- Disturbed drainages and seasonal wetland habitat shall be revegetated with the appropriate plant species as soon as feasible after completion of construction activities.
- Boring activities shall be closely monitored for loss of boring fluid. If a leak occurs, boring activities will be immediately halted until boring fluid is contained.

Significance After Mitigation: Less than significant.

IMPACTS WITH POTENTIAL TO CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES

Impact BIO-12: Construction activities have the potential to result in adverse impacts to trees protected by local ordinances. (Potentially Significant)

Cable installation activities may result in the removal of trees considered to be heritage trees or otherwise protected by local ordinances. Construction activities adjacent to protected trees may result in damage to roots and limbs and ultimately result in mortality of these trees. The biological report prepared as directed in Mitigation Measure BIO-1a will identify potential protected trees in the project area.

Mitigation Measure BIO-12a: Mitigation for project impacts to protected trees shall include measures for tree protection, revegetation, compensation and monitoring consistent with local ordinance requirements. Sempra Communications will develop and implement a Tree Protection Plan, where required in coordination with local jurisdictions, to prevent impacts to protected trees adjacent to construction areas, and a Tree Revegetation Plan to mitigate for protected trees removed during project construction.

Significance After Mitigation: Less than significant.

IMPACTS WITH POTENTIAL TO CONFLICT WITH THE PROVISIONS OF AN APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN

Impact BIO-13: Construction activities have the potential to conflict with provisions of approved Habitat Conservation Plans. (Less than Significant)

Several multi-species HCPs are either under development or have been prepared in the general project region. These HCPs provide a framework for the analysis of potential impacts of projects on a suite of special status species or sensitive habitats. Subsequent activities which involve fiber optic cable installation in paved city streets and road shoulders may not conflict with conservation strategies in HCPs covering portions of the project area. However, construction activities within undeveloped areas have the potential to conflict with HCPs.

During development of a work plan, Sempra Communications will review local city and county policies, ordinances and conservation plans, and comply with all applicable requirements. This may include submittal of plans for review and approval by local agencies.

Mitigation Measure: No mitigation required

Impact BIO-14: Construction activities on protected lands may conflict with policies and regulations established by land management agencies to protect biological resources in these areas. (Less than Significant)

Construction activities may occur on lands regulated by Federal, State, regional and local land management agencies. These lands may include national parks, national forests, regional and state parks, wildlife refuges, marine sanctuaries, and military bases with particular regulations or policies regarding conservation and management of biological resources. A discussion of specific land management agencies that regulate land within the project area is presented in the Land Use and Planning section of this Chapter.

Construction activities on protected lands would be subject to all applicable regulations or policies of the appropriate land management agencies.

Mitigation Measure: No mitigation required

REFERENCES – Biological Resources

California Burrowing Owl Consortium. Burrowing Owl Survey Protocol and Mitigation Guidelines. 1997. (available online from the Santa Cruz Predatory Bird Research Group, Santa Cruz, CA. http://www2.ucsc.edu/~scpbrg)

California Department of Fish and Game (CDFG). 1999. *List of California Terrestrial Communities Recognized by the California Natural Diversity Data Base.* February 1999 edition.

CDFG. *Guidelines For Assessing Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities,* revised May 8, 2000.

CDFG. California Natural Diversity Data Base, USGS 7.5-minute topographic quadrangles[11]. California Department of Fish and Game Natural Heritage Division. Sacramento, CA, January 2002a.

CDFG. *Special Animals List*. California Department of Fish and Game Wildlife and Habitat Data Analysis Branch. Sacramento, CA, January 2002.

California Native Plant Society (CNPS), *Electronic Inventory of Rare and Endangered Vascular Plants of California*, 7.5 minute topographic quadrangles[12]. January, 2002.

[11] Please refer to Appendix F for a list of USGS quadrangles included within the project area.

California Public Utilities Commission (CPUC). *Williams Communications Group Fiber Optic Cable System Installation Project-California Network Initial Study/Draft Mitigated Negative Declaration.* August, 1999.

County of Riverside. http://www.co.riverside.ca.us/county_info/history.asp. 2002.

Davis, F. W., D. M. Stoms, A. D. Hollander, K. A. Thomas, P. A. Stine, D. Odion, M. I. Borchert, J. H. Thorne, M. V. Gray, R. E. Walker, K. Warner, and J. Graae. *The California Gap Analysis Project--Final Report*. University of California, Santa Barbara, CA. 1998. http://www.biogeog.ucsb.edu/projects/gap/gap_rep.html

EDAW. *El Paso Global Networks Telecommunication System Project Draft Initial Study/Mitigated Negative Declaration.* October, 2001a.

EDAW. *Broadwing Communications Services, Inc. Fiber Optic Expansion Project Final Initial Study/Mitigated Negative Declaration.* December, 2001b.

Ehrlich, P.R., D.S. Dobkin, and 0. Wheye. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds.* New York, Simon and Schuster. 1988.

Environmental Science Associates (ESA). *Proponent's Environmental Assessment for Metromedia Fiber Network Services' Application to Modify its Certificate of Public Convenience and Necessity.* 2000a.

ESA. *Metromedia Fiber Network Services, Inc. Application for the Second Modification of its Certificate of Public Convenience and Necessity for the Sacramento and San Diego Networks.* 2000b.

ESA. *Sigma Networks Applications to Modify its Certificate of Public Convenience and Necessity for the San Francisco Bay Area and Los Angeles Basin.* 2001.

Harrison, H. *Western Bird's Nests.* Peterson Field Series, No. 25, Houghton Mifflin, Boston, MA. 1979.

Hickman, J.C., (Ed.) *The Jepson Manual: Higher Plants of California.* University of California Press, Berkeley, California. 1993.

Holland, R.F. *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Department of Fish and Game, Sacramento, CA. 1986.

Jameson, E.W. and H.J. Peters. *California Mammals.* University of California Press, Berkeley, California. 1988.

[12] Please refer to Appendix F for a list of USGS quadrangles included in the project area.

Larsen, S.S., K.E. Swaim, and S.M. McGinnis. *Innate response of the San Francisco Garter Snake and the Alameda Whipsnake to Specific Prey Items*. Trans. West. Sect. Wildl. Soc. 27:37-41. 1991.

Mayer, K.E. and W.F. Laudenslayer (Eds.). *A Guide to Wildlife Habitats of California*, California Department of Fish and Game, Sacramento, CA, 166 pp. 1988.

Miles, S.R. and C.B. Goudey. 1998. Ecological Subregions of California, Section and Subsection descriptions. U.S. Forest Service, Pacific Southwest Region, San Francisco CA. Prepared in cooperation with: USDA, Natural Resources Conservation Service and USDI, Bureau of Land Management. Internet publication R5-EM-TP-005-NET. http://166.5.1.221/ecoregions/title_page.htm

Munz, P.E., and D. Keck. *A California Flora*. University of California Press, Berkeley, CA. 1968.

National Geographic, *Field Guide to the Birds of North America*, Third Edition. National Geographic Society, Washington D.C. 1987.

National Marine Fisheries Service (NMFS) and National Oceanic and Atmospheric Administration (NOAA). Designated Critical Habitat; Sacramento River Winter-Run Chinook Salmon: Final Rule. Federal Register Vol. 58 No. 114, June 16, 1993.

NMFS and NOAA. Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Unites of Salmon and Steelhead in Washington, Oregon, Idaho, and California: Final Rule. Federal Register Vol. 65 No. 32, February 16, 2000.

Parsons Brinkerhoff Network Services, Inc. (PB) and ESA. *Level 3 Communications Fiber Optic Cable Oakland to Atascadero City Pair Pre-Construction Notification for Nationwide Permit(s) and Application for Streambed Alteration Agreement(s)*. December, 1998.

Parsons Brinkerhoff Network Services, Inc. (PB) and ESA. *Level 3 Communications Fiber Optic Cable Sacramento to Vacaville City Pair Pre-Construction Notification for Nationwide Permit(s) and Application for Streambed Alteration Agreement(s)*. January, 1999.

Parsons Brinkerhoff Network Services, Inc. (PB) and ESA. *Level 3 Communications Fiber Optic Cable Martinez to Oakland City Pair Pre-Construction Notification for Nationwide Permit(s) and Application for Streambed Alteration Agreement(s)*. February, 1999.

Recon. *Supplement to Sempra Communications Proponent's Environmental Assessment Application for Certificate of Public Convenience and Necessity for Facilities-Based and Resale Competitive Local Exchange, Access and Inter-exchange Services*. Prepared for Sempra Communications. 2000.

National Marine Fisheries Service and National Oceanic Atmospheric Administration. Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California: Final Rule. Federal Register Vol. 65, No. 32, February 16, 2000.

Sawyer, J.O. and T. Keeler-Wolf. *A Manual of California Vegetation.* California Native Plant Society. Sacramento, CA. 1995.

Skinner and Pavlik (eds.), *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California,* California Native Plant Society, 1994.

State of California Public Utilities Commission. *Broadwing Communications Services, Inc. California Fiber Optic Expansion Project Final Initial Study/Mitigated Negative Declaration*. 2001.

Stebbins, R.C. *Western Reptiles and Amphibians*. Peterson Field Guides, Houghton Mifflin Company, Boston. 336 pp. 1985.

Swaim, K.E. Aspects of the ecology of the Alameda whipsnake *(Masticophis lateralis euryxanthus)* Masters Thesis, California State University, Hayward, CA. 140 pp. 1994.

Swaim, K.E. Site Assessment for the Alameda Whipsnake at the proposed Leona Quarry Project Site. Report submitted to ESA, September, 2001.

U.S. Army Corps of Engineers. U.S. *Army Corps of Engineers Wetland Delineation Manual,* Final Report, Department of the Army Waterways Experiment Station, Vicksburg, *Mississippi*. January 1987.

U.S. Fish and Wildlife Service (USFWS). Listing of the Palos Verdes Blue Butterfly as an Endangered Species with Critical Habitat. Federal Register 45: 44939-44942, July 2, 1980a.

USFWS. Listing of the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Federal Register 45:52803-52807, August 8, 1980b.

USFWS. Determination of Endangered Status and Critical Habitat for Fresno Kangaroo Rat: Final Rule. Federal Register 50: 4222-4226, January 30, 1985.

USFWS. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Coastal California Gnatcatcher, March 30, 1993.

USFWS. Endangered and Threatened Wildlife and Plants: Threatened Status for Alameda Whipsnake *(Masticophis lateralis euryxanthus):* Final Rule. Federal Register Vol. 62, No. 234, December 5, 1997a.

U.S. Fish and Wildlife Service (USFWS). Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. Sacramento Field Office, Endangered Species Division. April 1, 1997b.

USFWS. Recovery Plan for Upland Species of the San Joaquin Valley, California, September, 1998.

USFWS. Guidelines for Conducting and Reporting Inventories for Federally Listed, Proposed and Candidate Plants, January, 2000a.

USFWS. Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the Peninsular Bighorn Sheep: Proposed Rule. Federal Register Vol. 65 No. 129, July 5, 2000b.

USFWS. Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the Alameda whipsnake *(Masticophis lateralis euryxanthus):* Final Rule. Federal Register Vol. 65 No. 192, October 3, 2000c.

USFWS. Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the San Diego Fairy Shrimp (*Branchinecta sandiegoenis*): Final Rule. Federal Register Vol. 65 No. 205, October 23, 2000d.

USFWS. Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the Coastal California Gnatcatcher: Final Rule. Federal Register Vol. 65 No. 206, October 24, 2000e.

USFWS. Endangered and Threatened Wildlife and Plants: Designation of Critical Habitat for the Tidewater Goby: Final Rule. Federal Register Vol. 65 No. 224, November 20, 2000f.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for the San Bernardino Kangaroo Rat: Proposed Rule. Federal Register Vol. 65 No. 237, December 8, 2000g.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Determination of Critical Habitat for the Quino Checkerspot Butterfly: Proposed Rule. Federal Register Vol. 66 No. 26, February 7, 2001a.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for the *Chorizanthe pungens var. pungens* (Monterey Spineflower): Proposed Rule. Federal Register Vol. 66 No. 32, February 15, 2001b.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for the *Chorizanthe robusta var. robusta* (Robust Spineflower): Proposed Rule. Federal Register Vol. 66 No. 32, February 15, 2001c.

USFWS. Endangered and Threatened Wildlife and Plants: Final Designation of Critical Habitat for the Arroyo Toad; Correction: Final rule. Federal Register Vol. 66 No. 45, March 7, 2001d.

USFWS. Endangered and Threatened Wildlife and Plants: Final Determination of Critical Habitat for the California Red-legged Frog in Alameda, Butte, Contra Costa, El Dorado, Fresno; Kem, Los Angeles, Marin, Mariposa, Merced, Monterey, Napa, Plumas, Riverside, San Benito, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Tehama, Toulumne, and Ventura Counties, California: Final Rule. Federal Register Vol. 66, No. 49, March 13, 2001e.

USFWS. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Bay Checkerspot Butterfly (*Euphydryas editha bayensis*); Final Rule. Federal Register Vol. 66 No. 83, April 30, 2001f.

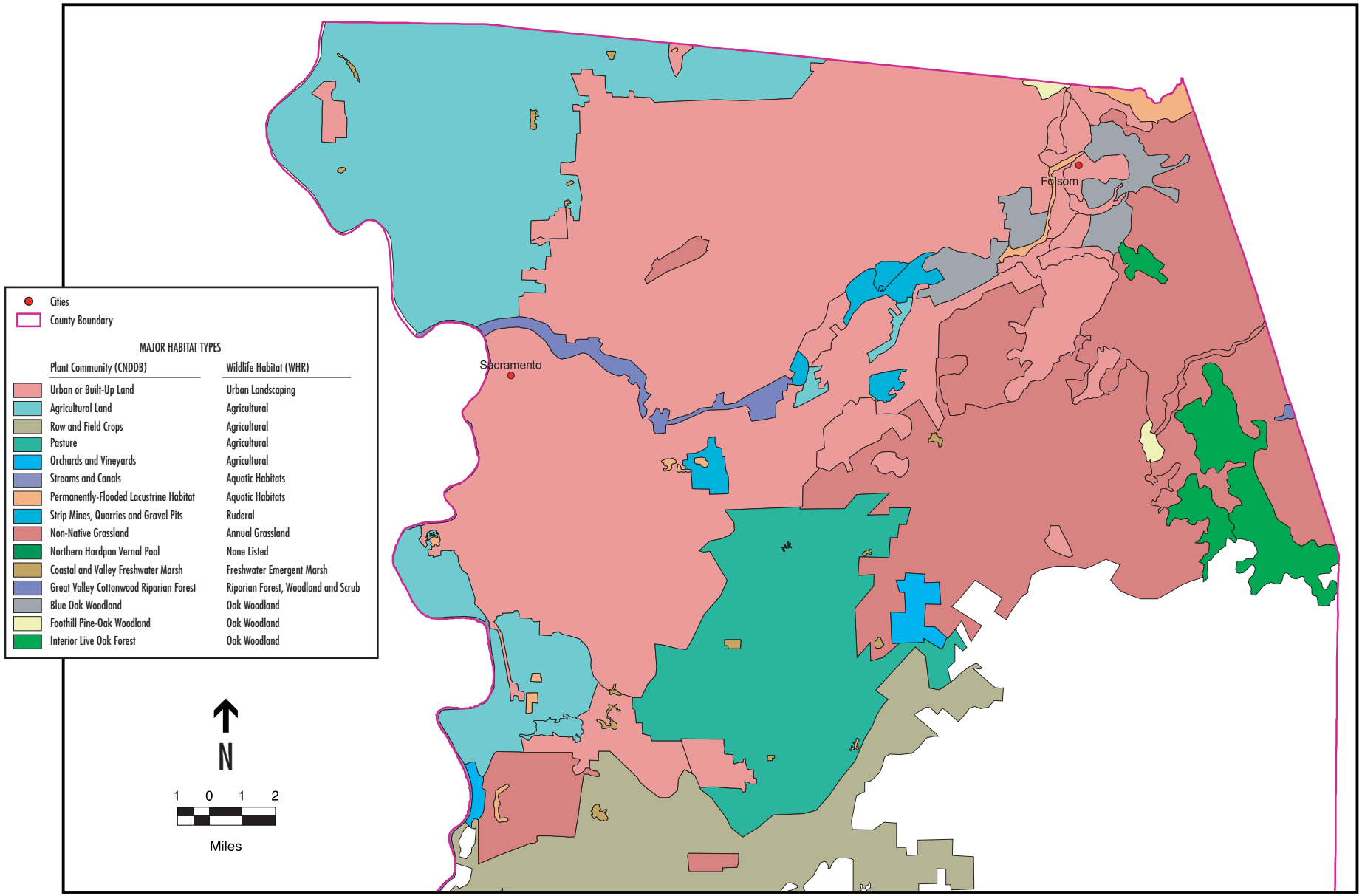
USFWS. Endangered and Threatened Wildlife and Plants: Final Designation of Critical Habitat for the Riverside Fairy Shrimp: Final Rule. Federal Register Vol. 66 No. 104, May 30, 2001g.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for the *Deinandra conjugens* (Otay tarplant): Proposed Rule. Federal Register Vol. 66 No. 114, June 13, 2001h.

USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for *Cirsium loncholepis* (La Graciosa thistle), *Eriodictyon capitatum* (Lompoc yerba santa), and *Deinandra increscens ssp. villosa* (Gaviota tarplant): Proposed Rule. Federal Register Vol. 66 No. 221, November 15, 2001i.

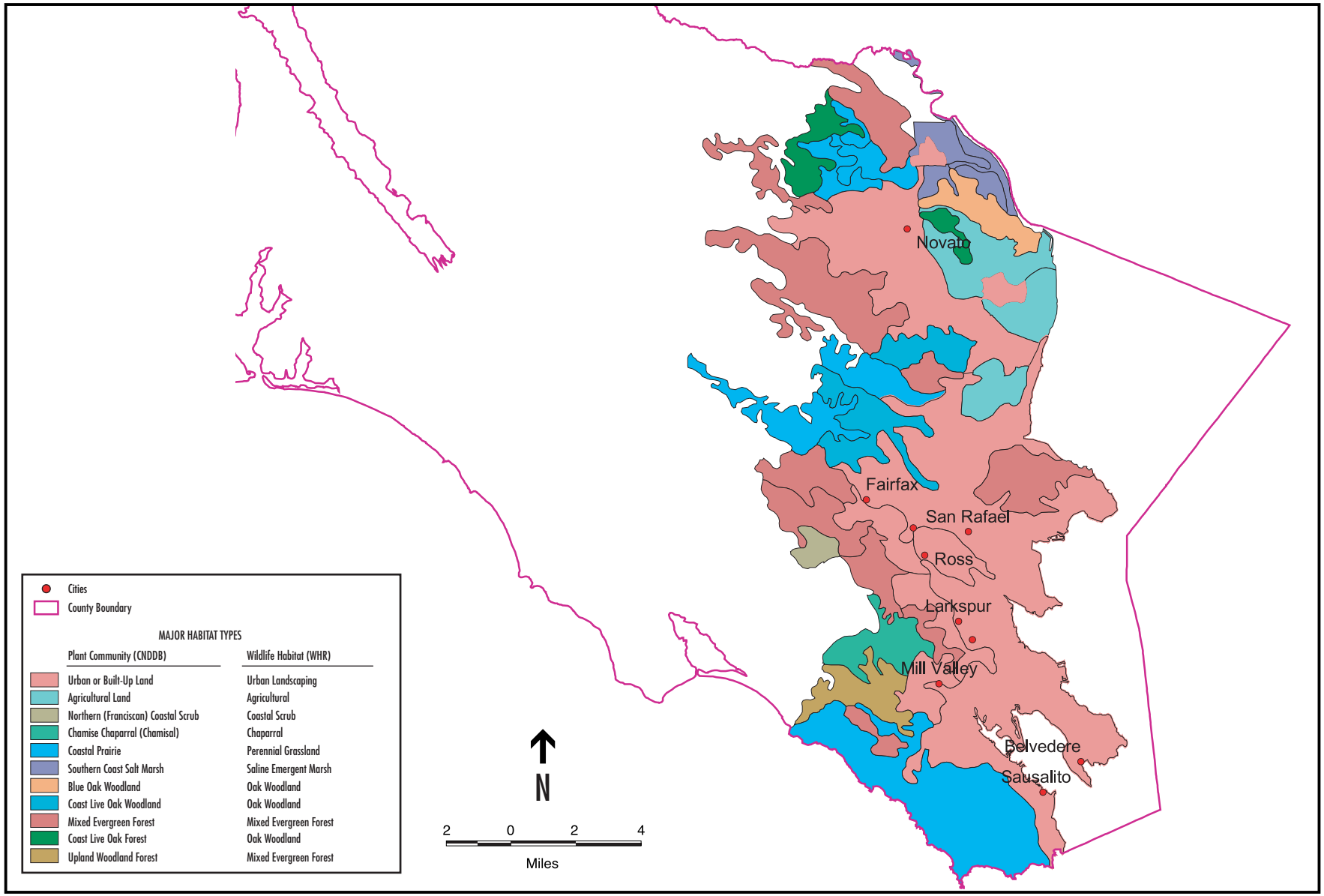
USFWS. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for *Holocarpha macradenia* (Santa Cruz tarplant): Proposed Rule. Federal Register Vol. 66 No. 221, November 15, 2001j.

USFWS. Species List for Sempra Communications Project. Letter from Jan C. Knight (Chief, Endangered Species Division) to C. Rogers. March 29, 2002.



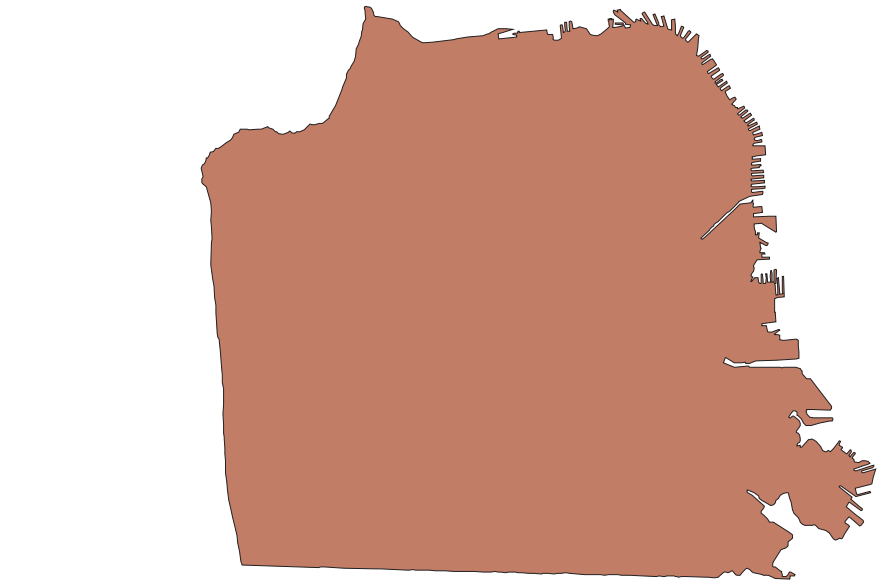
SOURCE: Land-Cover for California, California Gap Analysis 1998
and Environmental Science Associates, 2002

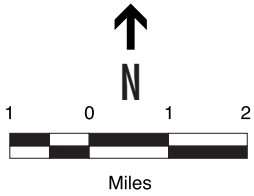
Figure 4.4-1
Sacramento County
Project Vicinity Habitats

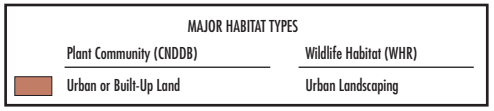


SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-2
Marin County
Project Vicinity Habitats

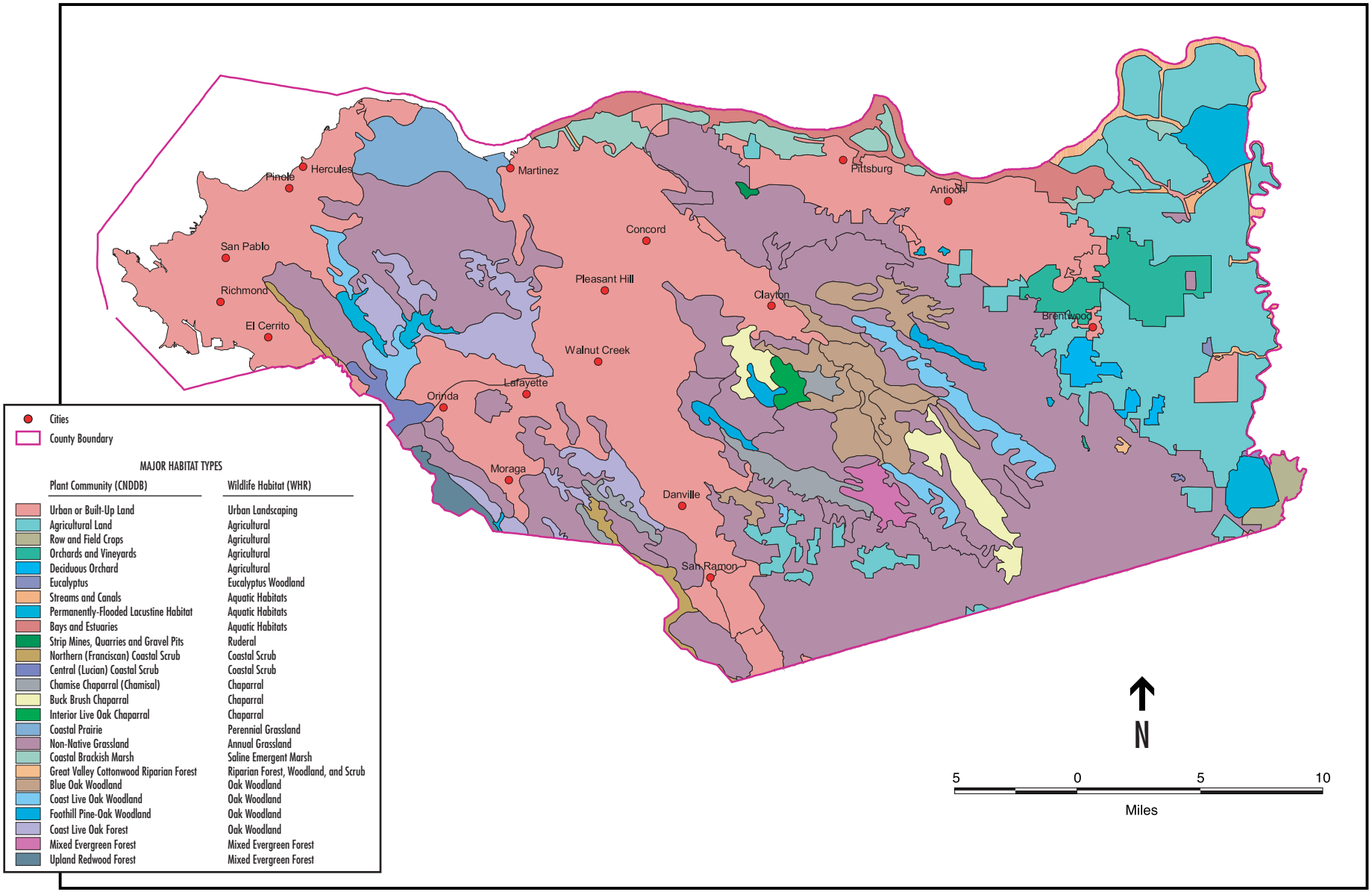






SOURCE: Land-Cover for California, California Gap Analysis 1998;
and Environmental Science Associates, 2002

Figure 4.4-3
San Francisco County
Project Vicinity Habitats



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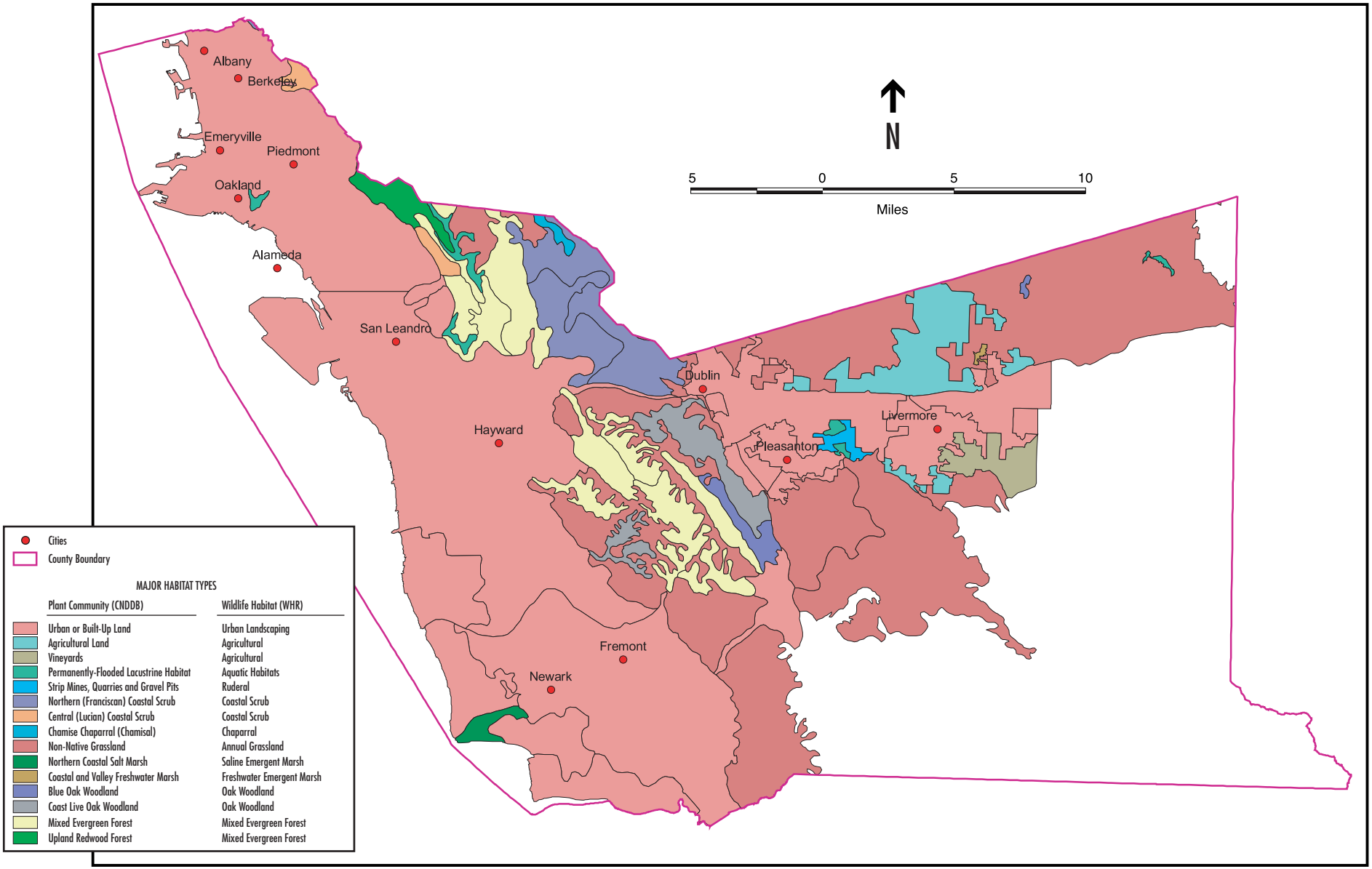
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-4
Contra Costa County
Project Vicinity Habitats



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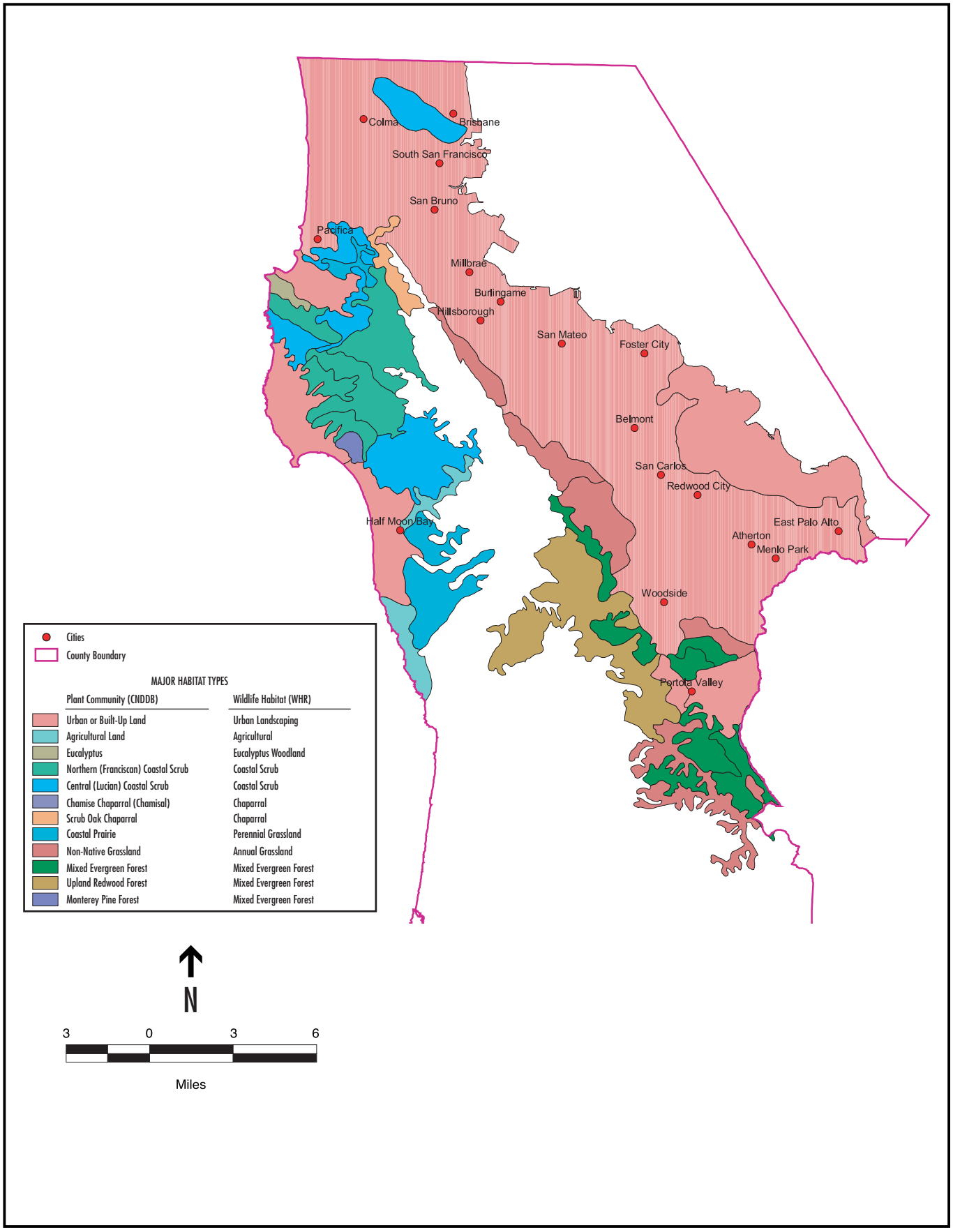
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-5
Alameda County
Project Vicinity Habitats



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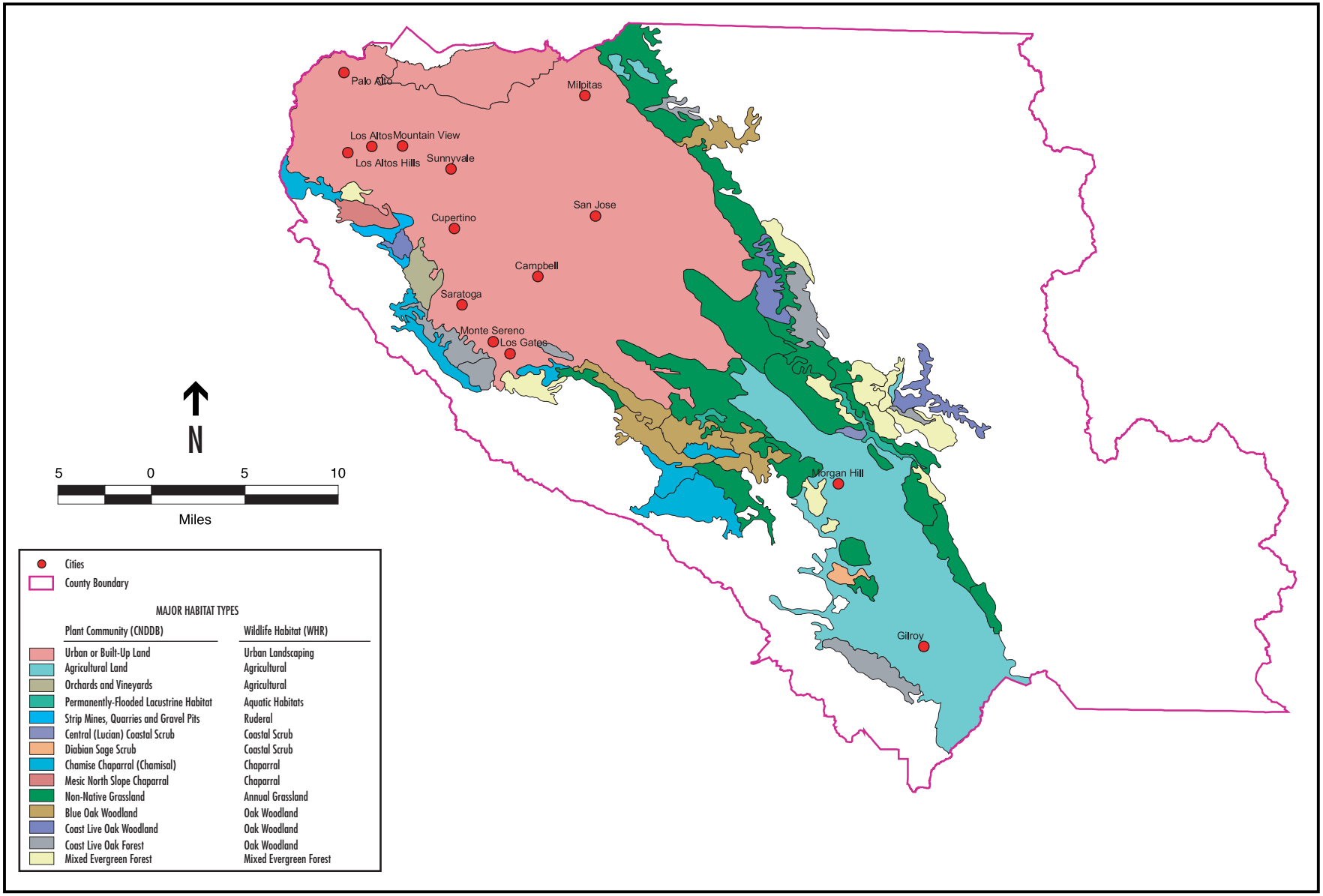
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-6
San Mateo County
Project Vicinity Habitats



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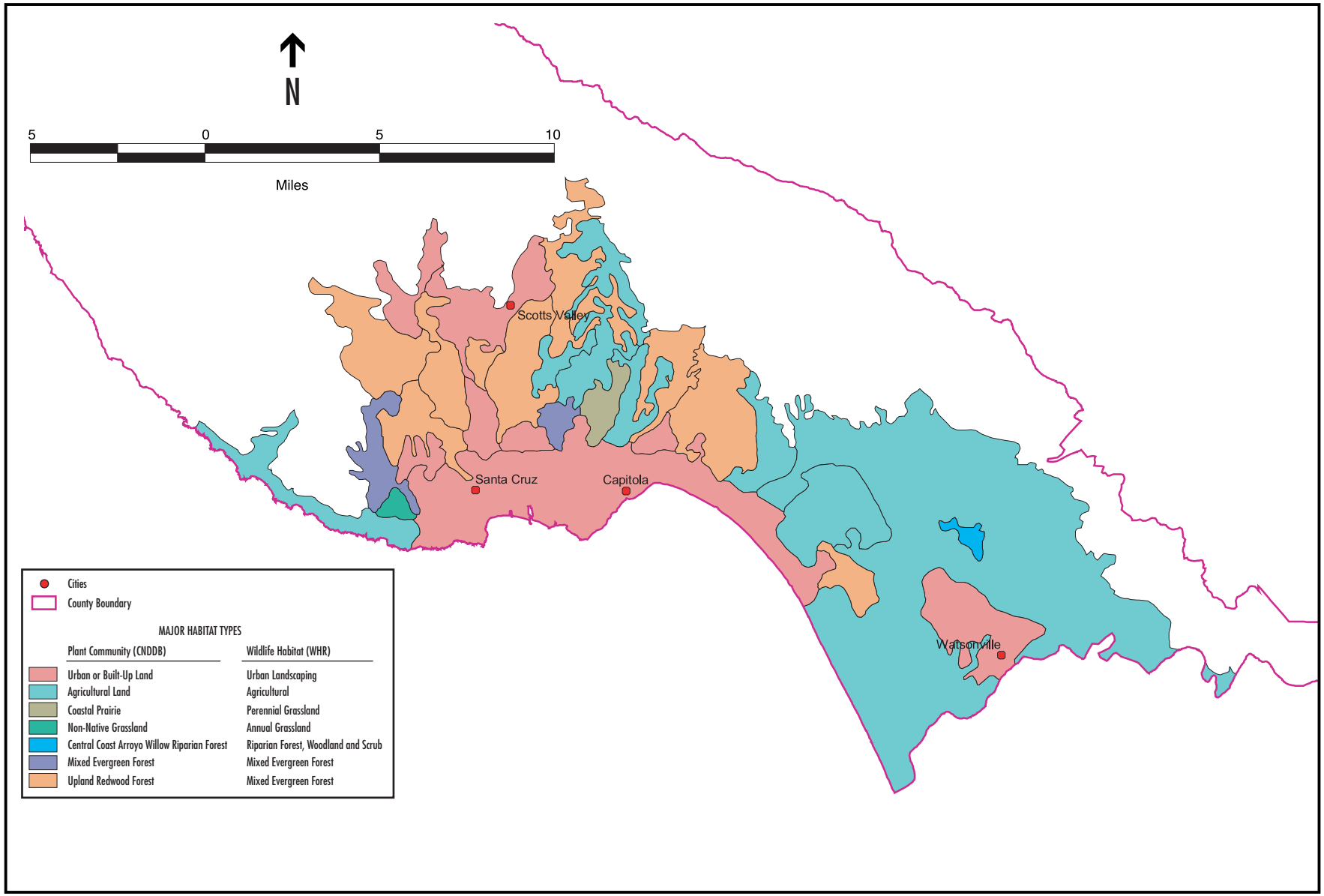
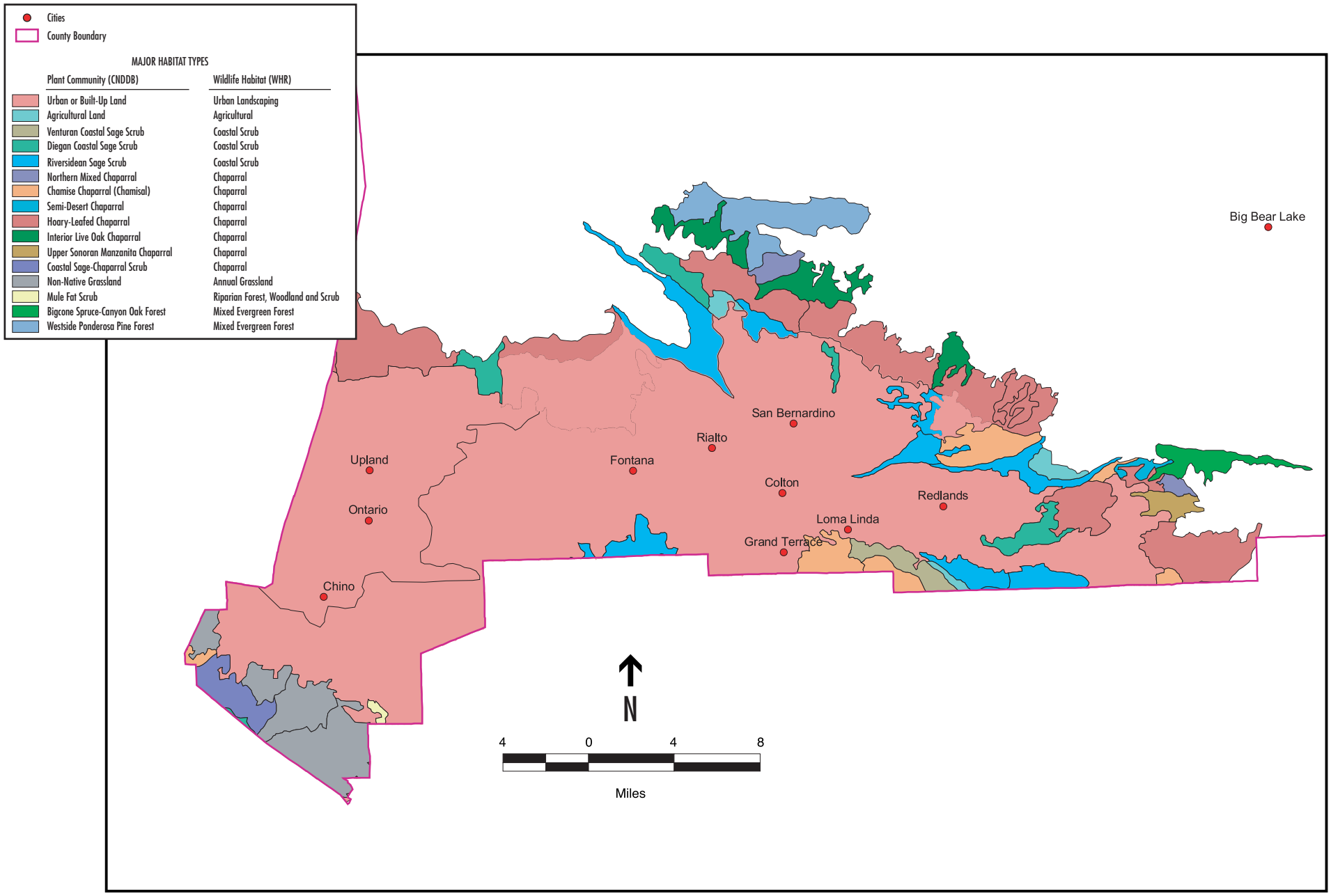
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-7
Santa Clara County
Project Vicinity Habitats



SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-8
Santa Cruz County
Project Vicinity Habitats



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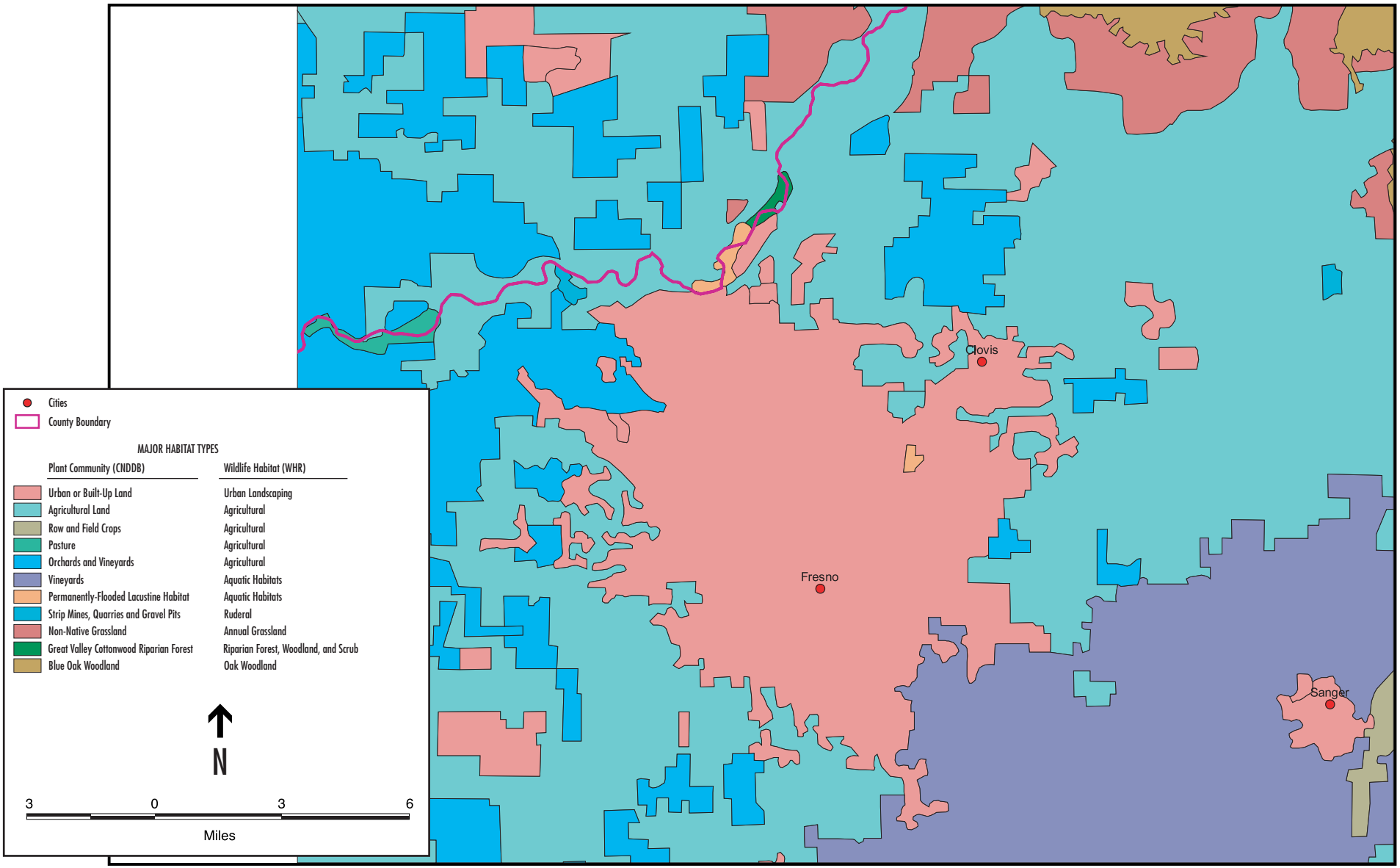
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-9
San Bernardino County
Project Vicinity Habitats



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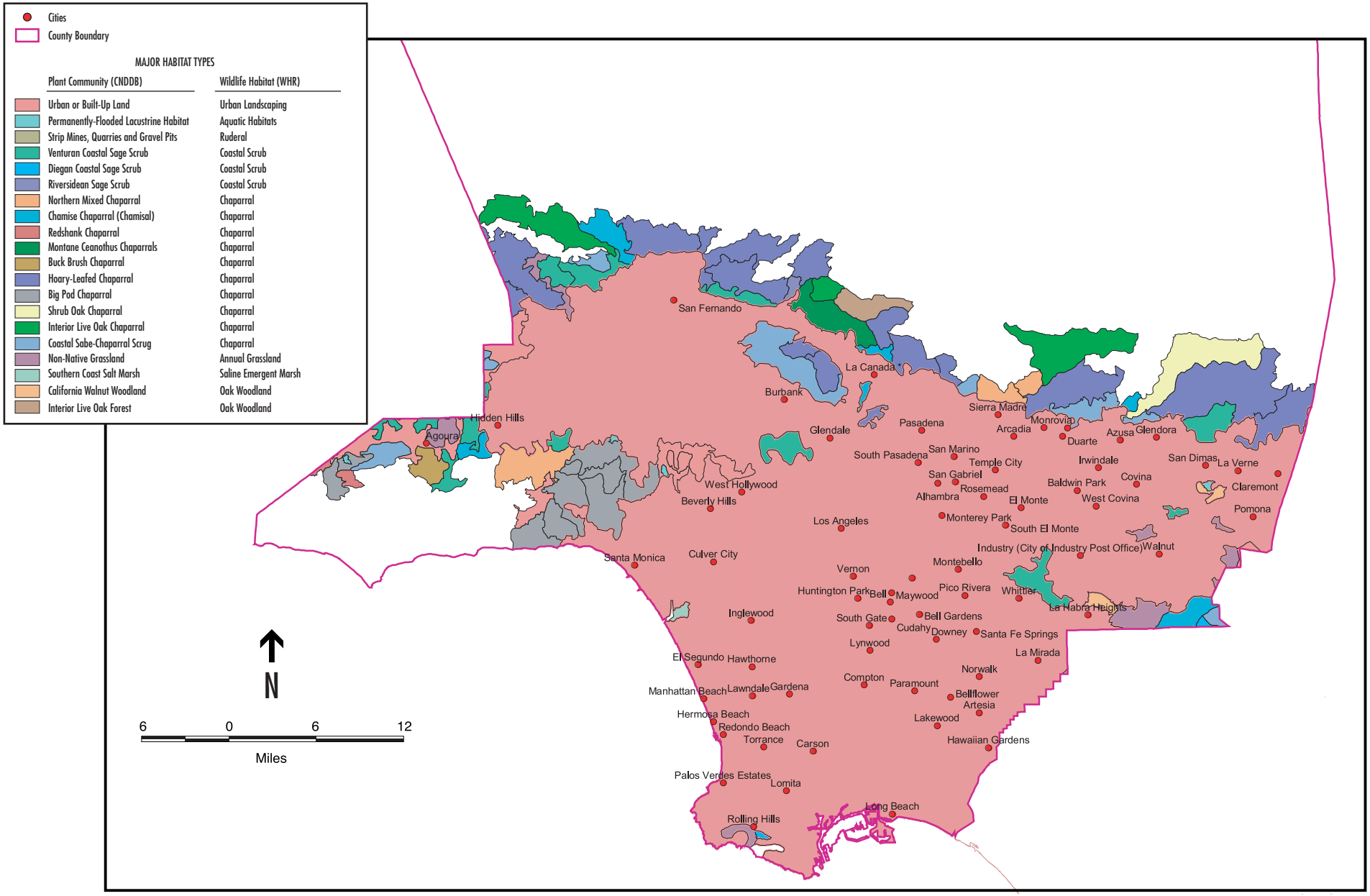
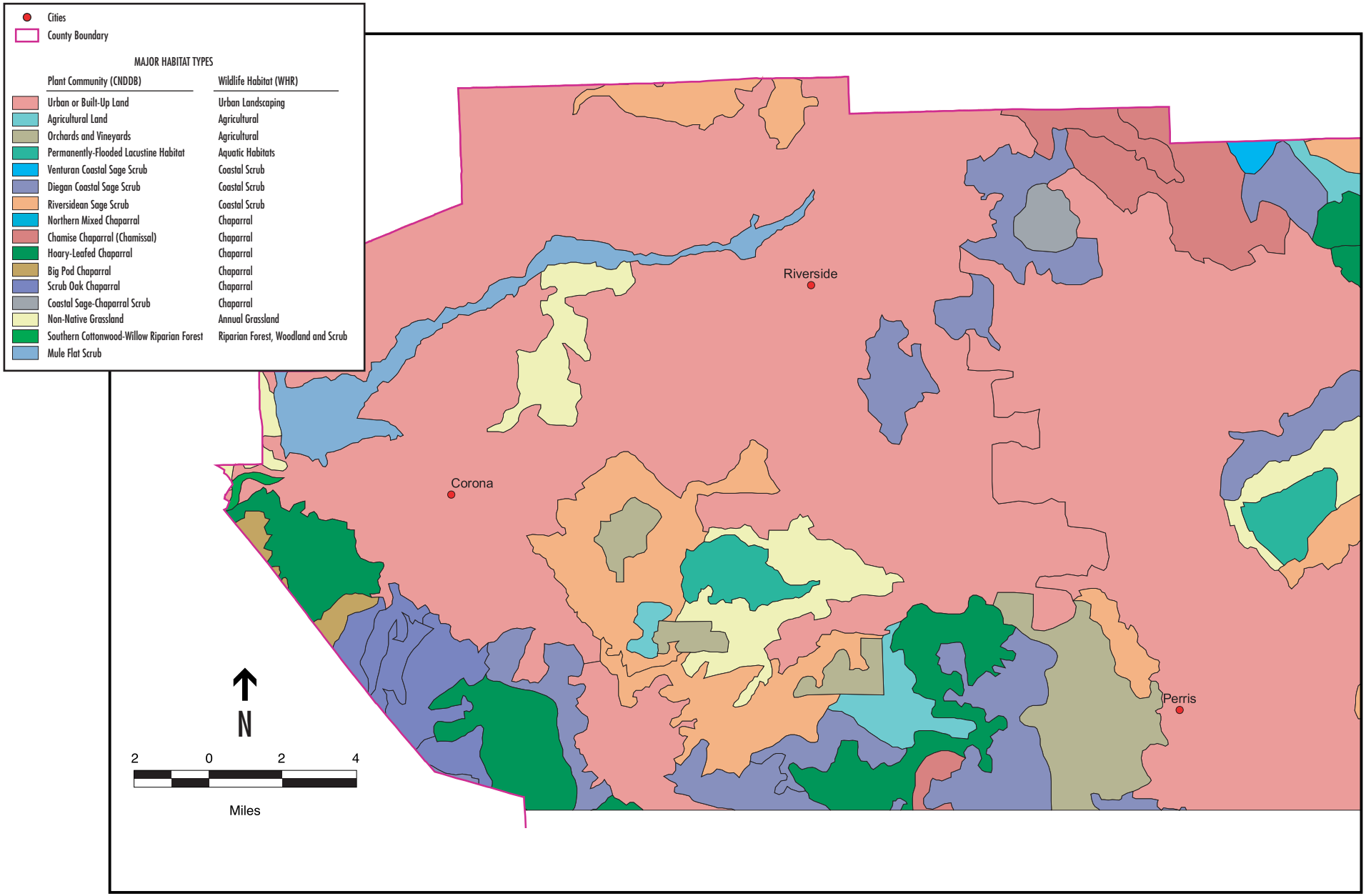
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-10
Fresno County
Project Vicinity Habitats



SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-11
Los Angeles County
Project Vicinity Habitats



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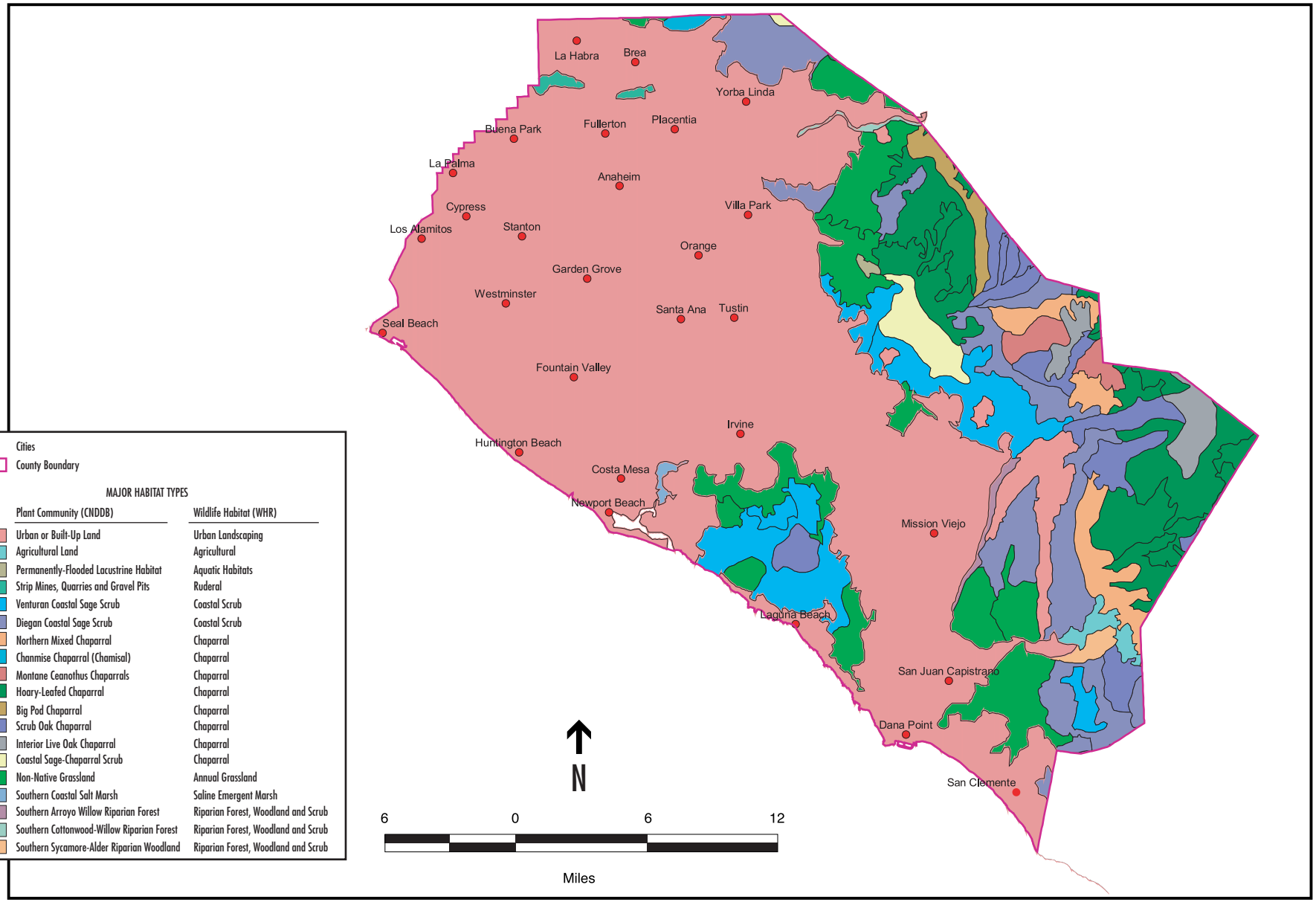
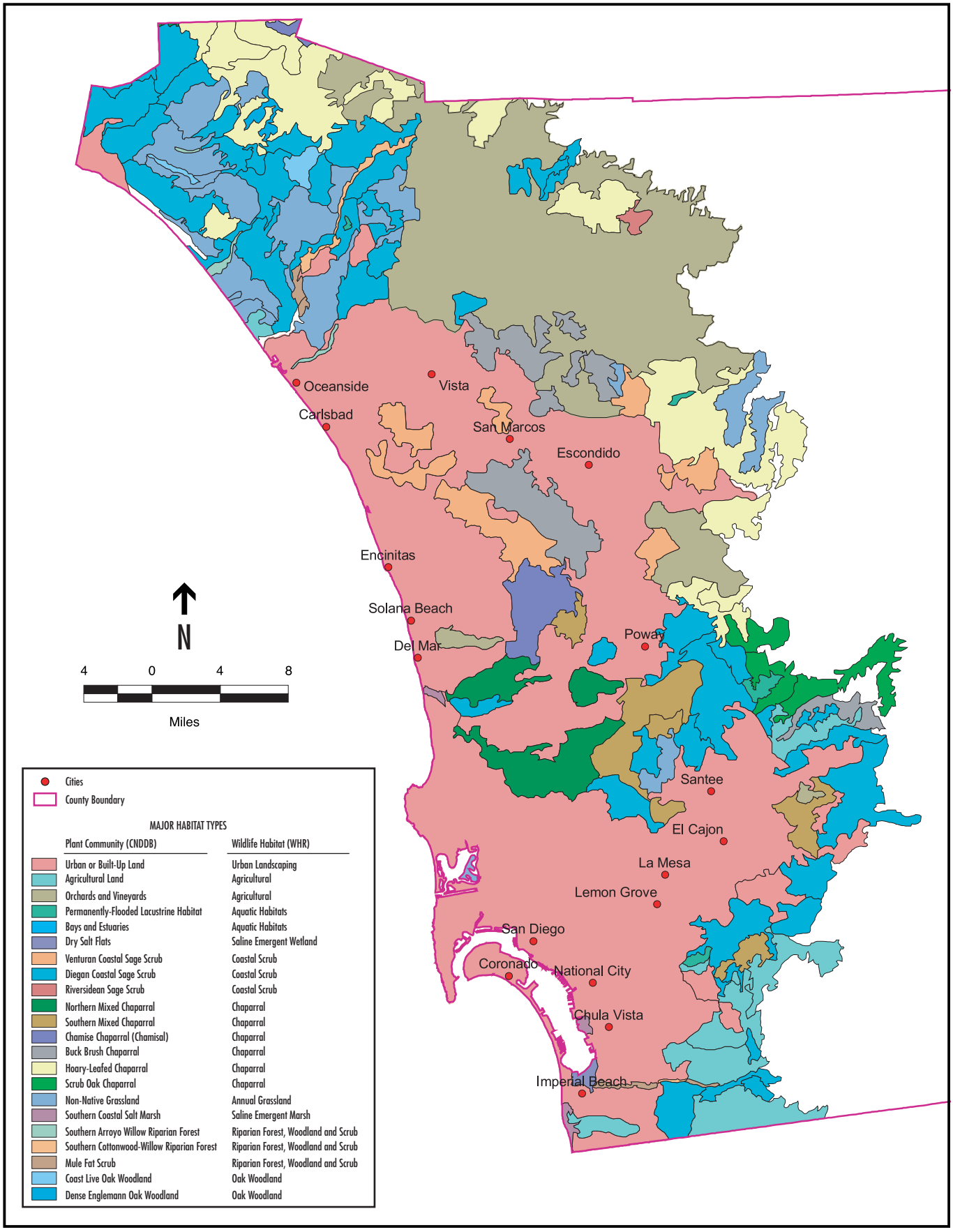
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-12
Riverside County
Project Vicinity Habitats



SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-13
Orange County
Project Vicinity Habitats



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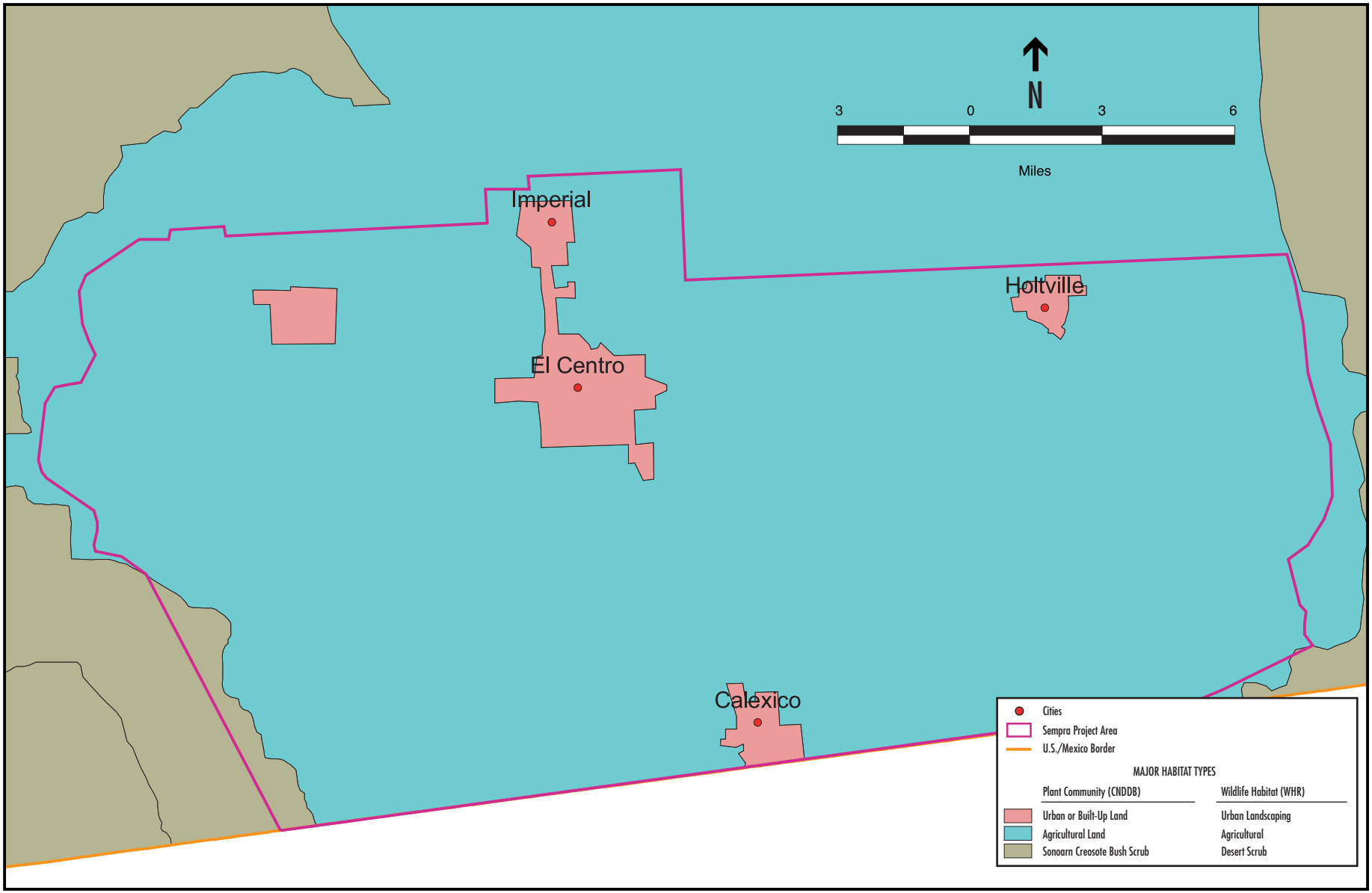
SOURCE: Land-Cover for California, California Gap Analysis 1998; and Environmental Science Associates, 2002

Figure 4.4-14
San Diego County
Project Vicinity Habitats



SOURCE: Land-Cover for California, California Gap Analysis 1998;
and Environmental Science Associates, 2002

Figure 4.4-15
Imperial County
Project Vicinity Habitats